

MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XLIII, No. 7.
WEEKLY.

BALTIMORE, MARCH 5, 1903.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE
Manufacturers' Record Publishing Co.

RICHARD H. EDMONDS, President.
THOMAS P. GRASTY, Vice-President.
FRANK GOULD, Secretary-Treasurer.

OFFICE: MANUFACTURERS' RECORD BUILDING,
BALTIMORE.

RICHARD H. EDMONDS,
Editor and General Manager.

THOMAS P. GRASTY,
General Staff Correspondent.

SUBSCRIPTION, - - - \$4.00 a Year.
TO FOREIGN COUNTRIES, - - 20s. 6d a Year.

BALTIMORE, MARCH 5, 1903.

COPY FOR ADVERTISEMENTS.

Advertising copy (changes or new advertisements) should reach us Saturday Morning to insure insertion in the issue of the following week.

For the first issue in the month we should receive copy by Friday Morning of the week preceding.

In a letter to the Manufacturers' Record Mr. W. B. Johnson, vice-president and superintendent of the Palestine Ice, Fuel & Gin Co. of Palestine, Texas, writes:

I am a full-fledged subscriber of the Manufacturers' Record, and have been for the past ten years. I get it regularly and read it every week, advertisements and all, and think and believe the Manufacturers' Record is doing and has done more good in developing the South than any other publication in the United States. As a matter of fact, I never did make a dollar until I began to read and study the Manufacturers' Record, and I do earnestly believe it has been the means of making me what I am, and has aided me in making and accumulating nearly \$50,000. I study the Manufacturers' Record all the time, and get much valuable information. It is my regular study.

UTILIZING WOOD WASTES.

In a letter to the Manufacturers' Record from the Salem Iron Works of Winston-Salem, N. C., this suggestion is made:

In operating our crosstie machine we find such an enormous quantity of shavings made that it is a burden to get rid of them. It has occurred to us that we might turn them into a source of revenue by what is called destructive distillation, or, in other words, by distilling the by-products from these shavings. As your journal has a large circulation, some of your readers may be interested in this subject, and we should be glad to hear from any parties who may be able to give us any information on this subject, and to have suggestions from manufacturers of plants for distilling by-products from wood. We learn there is a plan on foot for extracting by-products from waste shavings, sawdust, etc., of saw-mills and planing mills, and we understand that a plant working 100,000 feet of lumber a day can use this process to advantage working up the shavings, etc., and converting them into a source of revenue. If this can be done with a planing mill it certainly can be done in connection with the crosstie machine.

In its issue of February 12 the Manufacturers' Record published an article sketching the progress already made in the erection of plants in the South for the utilization of pine products, largely

products which had been regarded as waste. The suggestion from the Salem Iron Works emphasizes the widespread interest in such undertakings, and ought to hasten the day when the shavings, the sawdust, the slabs, the rough ends and other refuse of the lumber industry shall hold the place in Southern wealth similar to that now held by the former waste of the cotton gin.

TO SUPPRESS SOCIALISM.

In a letter to the Manufacturers' Record Mr. David M. Parry of Indianapolis, president of the National Association of Manufacturers, alluding to an analysis made by the Manufacturers' Record of the eight-hour bill which was before the Senate at the last session of Congress, and to its exposition of the attitude of the Federation of Labor towards socialism, writes:

The Manufacturers' Record is doing splendid work in setting before employers the menacing designs of the labor agitators. It looks to me very much as if we had this eight-hour fight won temporarily, yet we must ever be on the lookout for danger.

Mr. Parry is absolutely correct in his use of the word "temporarily." It is the blandly-confessed purpose of Mr. Samuel Gompers and his American Federation of Labor to keep hammering for socialistic legislation as long as there is the least chance of their accomplishing anything. At the hearing before the Senate committee of the eight-hour bill President Gompers said:

We want this bill passed at this session of Congress. No one would be prouder to give to the members the credit for such work done and for other bills which we believe will redound to the advantage of the people of our country. But if you do not pass it you will find us here at the next Congress. If not personally, you will find others more vehement, just as persistent and more able. There is no ending to this demand until we succeed.

And there is to be no ending to the demand of the small minority of wage-earners in the country that the government shall assume the conduct of industry, transportation and other enterprises as long as the great mass of American wage-earners and of the American people permit themselves to be cajoled or browbeaten into a support of any measure advocated by the class so ably represented by Mr. Samuel Gompers. The policy of the agitators is to strike for the ell, but if they cannot get the ell, to take an inch, fully determined, however, in their own minds that the ell must ultimately be theirs. If, for instance, they cannot get a law prohibiting the employment of persons under twenty-one years of age, they will persuade their dupes to demand one fixing the limit at sixteen years, and, beaten in that demand, will accept any limit; for the main purpose of the agitation is not so much the reduction of the number of wage-earners, though that is an item to be taken into account, as it is to commit legislation to the doctrine of State interference with the individual. The doctrine is kept alive by the demand as originally advanced, to which there will be

no ending as long as there is the slightest chance of it being given serious consideration by legislatures. It will appear in various forms. When it is obvious that Congress cannot be given the power to regulate directly the hours of labor in the country, the proposition will be made that Congress attempt to fix those hours in private establishments more or less closely connected with government contracts. And so, in one form and another, will be kept alive the contention that government may go to the farthest extreme in regulating the private conduct of individual employees and in controlling the operations of wealth-producing undertakings supposed to be owned by independent citizens.

The remedy for all this is in the hands of the American people. In two or three years, if they so choose, they may make absolutely a thing of naught the socialistic monstrosity nursed by leaders of the American Federation of Labor. To accomplish that they would have to work in two directions. First, they should make it impossible for anyone tainted in the slightest degree with socialism to be elected to any office. That would prevent further legislation of the dangerous sort. Second, they should unite in a movement to remove from the statute-books the records of previously successful essays toward socialism. This could be done through repealing legislation or through the courts. There are few radical labor laws which could not be either declared void or be rendered innocuous through judicial interpretation.

It would seem, therefore, that the task of such an influential body as the National Association of Manufacturers should be to create a center of action against further socialistic agitation and to provide the means for legal action for the overthrow of improper legislation in any part of the country where a nucleus for public sentiment against socialistic tendencies of labor organizations may be desired. Good-natured carelessness, a half-thinking optimism, misdirected sympathy or a desire to let things be as they are is responsible largely for the failure heretofore of united determination to combat radical legislation, not merely when it is attempted, but also after it has been accomplished. But it is combatable, and nothing would be more discouraging for socialistic propagandists than the existence of a compact, alert and active body acting in all parts of the country, always prepared to make legislative achievements of the propaganda of none effect.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 73 and 74.

This week marks the re-entry of Senator Arthur P. Gorman of Maryland into public life. Maryland is fortunate in this, and it is a matter of congratulation for the South and for the whole

country. Senator Gorman has had wide experience in affairs, he is in close touch with the interests working for the material development of the South, and he may be expected to occupy a conservative attitude in all legislation affecting them.

COMMON SENSE IN NEGRO EDUCATION.

In spite of the recent efforts to dazzle or to dumbfound with pedagogic platitudes for the furtherance of the most-recently devised educational crusade in the South, in spite of efforts to commit the South forever to erroneous and discredited notions about the province of education, the educational "evangelists" are now and then taught a lesson which their adamant or brazen determination to meet no criticism squarely cannot afford to disregard. Such a lesson has been given by Mr. J. Y. Joyner, superintendent of public instruction in North Carolina. In his last report he elaborates the following points:

All over the face of nature and of the universe it has been written in unmistakable language that education of the right sort is a good thing for the plants of the field, for the beasts of the forest, for all created things.

This unalterable law of God cannot be changed by the color of a man's skin or by racial differences or natural endowments.

Differences in natural endowments and racial traits are manifest, and require an adaptation of the character and methods of education to these.

There is danger in ignorance, whether it be wrapped in a white skin or a black one.

Education is a growth and not a creation; it can develop to the fullest what God has created, but can never supply what he has not created.

The education that fails to fit for greater usefulness and happiness in the sphere of life which one must fill is mis-called education, is indeed miseducation.

It is absolutely impossible for any race to remain in this great republic in the twentieth century uneducated.

The Manufacturers' Record cannot agree with Superintendent Joyner in all his reasoning from these propositions, but no sound mind working in disinterested channels may dispute the following statements of his:

In the South the sphere which the negro must fill is industrial and agricultural, and therefore his education must be largely industrial and agricultural. He must be educated to work, and not away from work. By directing his education into these channels we may be able to save him from idleness and the vices that follow in its train, and to make of him a potent factor in the industrial and agricultural development of the State, and a happier, more prosperous and useful citizen.

Have we not * * * sadly erred in trying to force the negro race, but one generation removed from bondage and ten generations from savagery, with essentially different racial traits and endowments, the same sort of education that our own race, with its different endowments and its thousand years of freedom and education has been preparing itself for?

If we fail to direct his education, those from other sections, some of whom are not in sympathy with our civilization, because they do not understand our social structure, who are ignorant of the nature and needs of the negro, and may have false notions of his relation to the white race in the South, will

take charge of it. Our safety then lies in taking charge of it ourselves and directing it along lines that shall be helpful to him and to us, and in harmony with our civilization and society, and with his nature.

There is not an unsound word in all of that. But in the face of Superintendent Joyner's common-sense statements, what becomes of the assertion of that eminent North Carolinian educationist, now a resident of New York, Dr. Walter H. Page, that "the Southern men who are engaged in educational work stand squarely for the same training for the blacks as for the whites?"

That assertion was made in support of the Southern Education Scheme, banking upon the declared purpose to educate without distinction of sex or race. What disinterested American can fail to see that the unalterable law of God has been grossly violated for forty years in seeking to force upon the negro the same sort of education as that which belongs to the whites? What horrible results can be directly traced to that error involving the mis-education of the negro from his sphere of usefulness and happiness? Who can doubt that if this Southern Education Scheme is permitted to be worked out under the negrophile influences which conceived it, which dominate it and which pay the bills of its evangelism, the South will be forever barred from the safety of taking charge of the education of the negro and directing it along lines harmonious with his nature and helpful to him and to the people among whom he must make his home for many centuries?

The Progressive Farmer, which quotes these words of Superintendent Joyner, calls them brave. Why? They are but the utterances of the thoughts of every man acquainted with the history of the miseducation of the negro during the past forty years by ignorance, however good-natured, and with the consequent social and economic difficulties. They are, however, peculiarly timely, for they show that the talk about "no color line in education," "like training for blacks and whites" and "education without distinction of race or sex" is bravery of the most flagrant sort—the bravery not possessed by perigrinating angels.

A MISTAKE IN SOUTHERN LEGISLATION.

The first veto by Governor Jelks of Alabama was of a bill providing for new buildings and for the maintenance of the Boys' Industrial School at East Lake. Governor Jelks' objection to the bill was that the State treasury could not afford to bear the charge made upon it by the appropriation in the bill. He did not object to the purposes of the bill, and as an evidence of his interest in the school designed to rescue boys from unfortunate and evil surroundings he submitted amendments making the bill feasible. A State official criticised the original bill as making better provision for boys of the criminal class than was made for the education of honest white boys of the State.

It is almost needless to say, in view of that criticism and of the fact that more money was appropriated by the bill than was available in the treasury for its purpose, that the sponsor for the bill was the Alabama Federation of Women's Clubs, which was also sponsor for the attenuated "child-labor" bill. But as a warning against the new methods of legislation on social matters to which the South has been introduced this winter, the circumstances of the

passage of this futile bill may be recalled. One account said:

The house gallery was packed this morning with ladies, who were there to see the passage of a bill appropriating \$20,500 to the Boys' Reformatory at East Lake. The ladies of the Alabama Federation of Women's Clubs, who have been standing sponsor for the reformatory, were there in a body and applauded all the speakers, regardless of the calls for order in the gallery.

Details of this disorderly conduct were furnished in another account as follows:

The Alabama Federation of Women's Clubs has become deeply interested in this institution, and the members of the Federation, which is now in session in Montgomery, packed the gallery of the house from the railing to the wall. The bill had been made the special order for 11 o'clock, that the ladies might be present in the gallery on the time of passage. They manifested a lively interest in the debate. The eloquent periods of the house speakers were repeatedly applauded by the fair onlookers, regardless of the speaker's gavel. The audience was enthusiastic, for speakers were repeatedly applauded by the ladies. The speeches were much to the liking of the ladies, inasmuch as every speaker who took the floor urged the passage of the bill. Not one voice was raised in opposition to the measure. Only one vote, that of Representative Hubert T. Davis of Etowah, was cast against the bill. When he uttered the word "no" at the call of his name a groan almost of horror and anguish went up from the fair tenants of the gallery.

The history of this bill is fairly typical of the results to be expected if women, however enthusiastic and earnest they may be, make the mistake of forsaking for never so short a time the sphere in which they are so eminently qualified to rule and to become fair but disorderly tenants of legislative galleries for the purpose of lobbying, through hand-clappings or groans, for impracticable measures. The only women who may with propriety, according to old, well-tried standards, directly influence legislation are the mothers, the wives or the sisters of legislators. That influence should be exerted not with the garishness usually identified with political conventions, not by packing legislative galleries from rail to wall, but in the modest, refined and gentle sway which women, and women alone, may exercise.

Men who love Southern women and who hold them to be the best women in the world have been shocked and pained at the many indications this winter of a proneness on the part of some of them, with the best intentions, to permit their feelings to overmaster their sweet reasonableness and to set the pace for a policy which, if pursued, must inevitably bring them down to the level of men and rob them of their greatest potency for the good of the world.

Governor Jelks' veto ought to set them to thinking, and ought to lead the women folk close to legislators to encourage their kinsmen to emulate Representative Hubert T. Davis and to vote for reform measures according to common sense in spite of and in the face of a lady-lobby.

An indication of the tendency in the textile industry appears in the announcement that the British Cotton and Wool Dyers' Association of Bradford, England, with a capital of \$15,000,000, and operating fifty-one plants in England, Wales and Scotland, has begun the erection of a \$150,000 plant at Holmesburg, near Philadelphia, to mercerize, dye, bleach, wind, etc., cotton yarns. This undertaking is said to be but a beginning of the extension to this country of the association's business. It is but a part of the drift of cotton mills toward the cotton fields.

SOUTH CAROLINA'S FERTILIZER TRADE.

By AUGUST KOHN.

(Written for the Manufacturers' Record.)

The question the Manufacturers' Record has asked as to what the condition of the fertilizer trade in South Carolina is and what the facilities of the railroads for handling it are may be answered as follows:

The expectations of those who are thoroughly familiar with the fertilizer business in this State are that the business will run up to what it was for the season of 1900-1901, which was one of the largest in the recent history of the fertilizer trade. The total movement out of Charleston for that season aggregated 386,558 tons. This included the shipments of pyrites, soda and all other materials used in the manufacture of fertilizers, and the figures of actual manufactured fertilizers shipped are put down as 375,000 tons. The orders that have been received indicate that business for the present season will run up to fully 375,000 tons from the Charleston territory.

This is a remarkable shipment out of a single port of one manufactured product.

There is, perhaps, no other port or city in the South which has sent out as much as 375,000 tons of any one manufactured product.

This shipment out of Charleston does not, of course, cover the entire movement of fertilizers from the State of South Carolina.

The absolute figures as to the amount to be moved in and out of the State, including what is known as the Augusta territory, which is really regarded as a part of South Carolina's product, covering the movement of fertilizers for the present season for South Carolina, is put down at these figures:

City.	Tons.
Charleston.....	375,000
Anderson.....	20,000
Columbia.....	60,000
Blacksburg.....	25,000
Augusta.....	15,000
Port Royal.....	20,000
Port Pon.....	30,000
Total.....	535,000

This consumption will not, of course, be confined to South Carolina, but includes the shipments to North Carolina, Virginia, North Alabama and such other points as are supplied by the local manufacturers.

The Virginia-Carolina Chemical Co. does by far the largest portion of the business in this State, and that company has received more than 55 per cent. of its total orders for the season, and more than 90 per cent. of its entire bookings up to this time have been shipped.

There will be sent out of Charleston this season 375,000 tons of manufactured fertilizers, and it therefore may be well to show how this movement was distributed in previous years. The movements for the port for two seasons were as follows:

	1900-1901.	1901-1902.
	Tons.	Tons.
Plant System.....	117,519	78,972
Atlantic Coast Line.....	131,906	114,126
Southern Railroad.....	128,637	94,505
Various sloops, wagons, etc.	2,379	5,969
Steamers.....	6,127	5,074
Total.....	386,558	298,646

It is to be supposed that there will be the same movement this year by way of steamers as well as for the local consumption. This will take up in round numbers 10,000 tons, and will leave for shipment out of the city of Charleston 365,000 tons of fertilizers.

This 365,000 tons will be shipped out in average carload lots of twenty tons to a car, which is something more than the average carload lots have been in previous years.

Reckoning upon a basis of twenty tons

to a car, the shipment of 365,000 tons of fertilizers out of Charleston will require 18,250 cars for the movement.

It will be seen upon a glance that this fertilizer movement out of Charleston cannot be handled with less than 18,250 cars, and this does not take into consideration the movement of fertilizers from the other points in the State, all of which, of course, have to be similarly served.

The railroads cannot, of course, supply 18,000 or 20,000 cars at given times upon a day's, week's or a month's notice, but they are doing the best they can, and if the consumers will only be patient they will all be served in ample time.

The Virginia-Carolina Chemical Co. has already booked to date from Charleston over 100,000 tons, and most of it has gone out. Some portion of this business was shipped before January 1, and a good deal of it in January, and a good deal over 50,000 tons was delivered during the first twenty days of February. Of the bookings by the Charleston shippers, very nearly 90 per cent. has been moved.

A great deal of the anxiety as to the movement of fertilizers comes from fear by the planters that they will not be able to get their goods in time for use.

The South Carolina business, especially that south of Columbia, has to be supplied as early as any other section, and those who are familiar with the necessities of the business know that if the farmers in Eastern Carolina can be supplied by the 8th or 10th of February they will get their supply in ample time, and if the upper part of this State and North Carolina can get their fertilizers by the 1st of May it will still be in ample time; that is, the railroads still have fifty days in which to move the fertilizers, and they have about one-half of the goods to move within this fifty days. The fertilizer companies seem to be satisfied that the railroads can move the stuff within the required time. As will be seen by the statements given, there is a division of the business, and no one company gets it all, nor the lion's share of it.

The Southern Railroad has made an effort to increase the volume of its business, and its trouble seems to be in the motive power more than in the supply of cars, but the management of the Southern has materially increased this supply of locomotives, which will likely overcome this drawback.

The railroads fully appreciate the necessities of the situation, and are doing everything possible to mobilize the necessary cars to get the stuff out to the farmers, and are trying to relieve the anxiety and constant tension of the manufacturers as well as the consumers, so there may be no fear on the part of the manufacturers that the consumers will not be supplied in ample time; but there may be something of a strain upon the nerves of those who handle the fertilizers and do not get it exactly when they want it, but the manufacturers are satisfied that by keeping up the present pace the railroads will get the fertilizers out to the farmers before they are really ready to put the goods in the ground.

President Hugh McCloskey of the board of port commissioners of New Orleans announces that the board contemplates a system of steel sheds and modern wharfage along the port lines, and that a number of steamship agents have signified ability to secure the funds needed for the improvement.

THE "PROBATION" OF THE SOUTH.

By EDWARD INGLE.

[Written for the Manufacturers' Record.]

Dr. Edwin A. Alderman, president of the Tulane University, in his late oration at the Johns Hopkins University in Baltimore, seemed to regret that the old South could not produce an Emerson. Why regret? Suppose the South had produced an Emerson? What would the South have done with him? What would he have done with the South? Who was Emerson, anyhow? We all know that he was the author of works which are soon to appear in a new edition, and that his name is being mentioned here and there under the skilful cultivation of publicity belonging to book manufacturers, and, on the same line, we know that the Free Religious Association which Emerson helped to found will celebrate next summer the centennial of his birth. But is there any reason why the South should regret that its air did not produce an Emerson? The last word about Emerson has not been written, and his place in American literature and American philosophy is by no means assured. America is still young. Why regret that the South could not produce him? The South has been too busy producing great men.

This implied regret is one of the distressing manifestations of a new school of historians which is nowadays getting considerable publicity and gaining a standing as authoritative hardly justified by revealed equipment. It seems to presume that tolerance involves a forgetfulness, a belittling or a disregard of effective conviction; that industrial power must necessarily overshadow devotion to intellectual and ethical ideals, and that educational desire is expressed in breezy, aggressive, accumulative imitation. Those who are impressed by it forget that what passes sometimes for breadth of view is by no means connected with profound thought. While this school in its assumptions creates the impression that it is inclined to pity the men of old for holding a creed of life and a theory of government which they believed to be permanent, instead of merely transitional, it displays lack of acquaintance with that creed and with that theory by confusing transitional outgrowths of them with their basic principles, and betrays its unfamiliarity with the philosophy of history in assuming that defeat by world tendencies of the time—as if world tendencies were not ever pendulating—was a denial that the principles were right and that they could ever again become effective.

Such is the impression created by the rhetoric of this new school. Illustration is afforded in the recently-published memorial day address at Athens of Joseph R. Lamar of Georgia, in which, referring to conditions at the beginning of the war in 1861, he said:

"The South was purely agricultural. She had no manufactories; she had no foundries; she had no mines.

"The Army of the Confederacy was recruited from the ranks of men who had lived the independent, self-centered, resourceful life of the Southern planter. He was an autocrat, and knew how to command, but in learning that lesson he had learned also how to obey.

"The Cause for which the Confederate fought is lost. No war ever settled weightier or more tremendous issues than those decided at Appomattox. With a pen dipped in blood it was written that never again in this land shall human beings be bought and sold, and as irrevocably it was decreed that this is an indestructible union of indestructible States."

This orator was, perhaps, speaking only

relatively when he said that the South had no manufactories, no foundries and no mines. So, too, he may have been indulging in poetic license regarding the Army of the Confederacy; for it would be something of an exaggeration to class as planters the men who constituted, perhaps, the bulk of the private soldiers of the Confederacy about whom he was talking. Those who formed the planting class of the South in 1860 were hardly one-quarter of the white population of the South. These lapses are trivial, but what must be said of the absence of philosophy and the confusion of cause and occasion, of consequences and purpose, of aim and result, in the speaker's reference to Appomattox? Does he think that the principle of the indestructibility of the States of the Union was vindicated there? How many Federal soldiers enlisted, does he think, for the purpose of preventing the buying and selling of human beings, or how many Confederate soldiers took up arms for the purpose of continuing such a traffic? Or, if he does not interpret history as he seems to do there, and if he has been merely unfortunate in his diction, by what process of reasoning has he reached the conclusion that the cause for which the Confederates fought was lost? No cause is lost simply because the material forces at the command of the victors at the time are greater than those which may be depended upon for its defence. Nor is it true philosophy to hold as eternal defeat of fundamental principles the overwhelming of men struggling to maintain them under circumstances giving the color of inspiration to superficial and ephemeral occasion.

Such a confusion of ideas is responsible for Dr. Alderman's regret about Emerson, and for his mistaken views about the character of the old South, however thoroughly he may be convinced of its romanticism. He concedes that Patrick Henry and Calhoun may be read with Demosthenes and Burke; that without the Virginia country gentleman there could have been no Union; that Andrew Jackson was needed to awake to power the "raw genius in democracy," and that Abraham Lincoln of Kentucky was "a splendid, lonely, patient genius of democracy." But he seems to think that though the American Union had sprung almost from the brains and had been maintained by the valor of the armies of the aristocratic South, what these men loved and wanted "the stream of tendency the world over was set against and would have none of," and, therefore, has passed forever. He describes the old South as "the middle age clinging to the assured past and doubtful of the uncertain future," "the heroic tradition with its stage-setting of affairs and contest and heady enterprise making its last stand in the new West against efficiency and correctness and form." He says:

"Forehanded, shrewd men, beaked and taloned graspers of the world were not to be found in this society."

So much for the positive statement. But Dr. Alderman shows also what he thinks the old South was in the following sentence:

"The South has changed the emphasis of its thought from personality to social progress. It has made the change that every country makes that passes from the patriarchal to more complex forms of life. Its insistence is to be upon community effort, upon civic progress, upon general well-being, rather than upon individualism. It has entered for good or ill

upon its probation as a member of the modern world. It has found that civilization is an economic as well as an ethical fact."

This pictures the old South as "patriarchal," which, on the lips of Dr. Alderman, is perhaps a bit of breezy accumulation, but it creates a suspicion that Dr. Alderman doesn't know the history of the land that gave him birth, or is acquainted only with that phase which has been magnified in tradition.

Perhaps forehanded, shrewd men, beaked and taloned graspers of the world, as Dr. Alderman's audience evidently grasped his words, were not found in the South. But the South produced quite a number of forehanded men, shrewd men, men grasping about as much of the world as they could, and at the same time making it plain that there was to be no more grasping on the western continent for the talons of Europe.

There, for instance, was George Rogers Clark, seizing of his own initiative and by sheer force of his character, even against the discouragements of his people, the vast territory northwest of the Ohio. The name of Thomas Jefferson comes readily to mind in this connection—Thomas Jefferson, who made rather a good bargain from the financial standpoint in the purchase of Louisiana, meanwhile saving the West to the Union in spite of precedents for the secession doctrine being set in far-removed New England. Meriwether Lewis and William Clark carrying the flag through the wilderness to the Pacific were rather good examples of a combination of ethics and economics for the public good. Then the well-informed memory brings forth Sam Houston in Florida and Texas annexation, and of Winfield Scott and Zachary Taylor in the Mexican War, with its consequent expansion of the United States to the Pacific. In fact, the spirit of the South not only made the Union, but was responsible for every addition of territory to it up to 1860, while the doctrine which limited on this continent the power of Russia and paved the way for the purchase of Alaska—a doctrine meaning something in those days more than a mere mouthing of words to conceal its flagrant violation—was formulated by James Monroe, even though others may have had a hand in it. But this Southern grasping of the world, forehanded and shrewd as it was, cannot be called "taloned." That means grasping for one's own benefit. It was not the kind of grasping which led "patriarchal" Virginia to give to the country with free hand the Northwest territory, and "patriarchal" Carolina and Georgia to yield vast and valuable tracts upon which Alabama, Tennessee and Mississippi rose, and in this giving and in this yielding to set the pace for community effort and for insistence upon general well-being, which was followed in the history of Louisiana, of Texas and of the Mexican cession. To be sure, there may have been a bit of "talon" in the support given filibuster Walker in Nicaragua, and in the designs upon Cuba in the fifties, of which Mississippi's sometime governor and sometime congressman, John A. Quitman, was the most aggressive exponent. John A. Quitman, though, was not of Southern birth. He was a native of New York.

Forehandedness, shrewdness and devotion to the common weal, however, were manifested in other ways than in providing territory for the American people. That was the peculiar honor of natives of one State alone, Virginia. Other natives of the same State felt themselves moved by what the new school would have us call "patriarchalism," "patriarchalism" or "sectionalism," but which in reality was exactly the contrary, to spend their lives

and to manifest their genius in the service of their fellow-men in other directions.

John Marshall, as Chief Justice of the Supreme Court, was the wholesome leader in the school which determined that this country was to be one of law measured by a constitution interpreted by reason, and not of law dictated by ever-shifting mob sentiment. It would have been miraculous had there never been a lapse from the Marshall standard, but we are getting back to it again with the growth of the belief that bayonets were not designed to pin amendments to organic law.

Matthew F. Maury, too, was something of a large American. To his pen must be credited the development of the sentiment that produced the United States Naval Academy. He was the creator of the Naval Observatory and the formulator of co-operative meteorological observations on the land, out of which has grown the United States Weather Bureau. Having earned among the nations of civilization the title of "Pathfinder of the Seas" through his "Wind and Current Charts" and his "Sailing Directions" of epoch-making importance in international commerce, he suggested the binding of continents by cable laid upon the bed of the Atlantic; he used a half century ago the arguments, backed by profound technical knowledge, in behalf of the construction of an isthmian canal which have been used even to this day, and his voice and pen were constantly employed in advocacy of plans for making the markets of South America and the East tributary to American trade, on the lines laid down earlier, with special reference to Europe, by such men as Robert Y. Hayne, George McDuffie and others.

Contemporary with Maury was Ambrose Dudley Mann, whose conception of the steam ferry between Hampton Roads and Milford Haven, with its railroad connection with the Mississippi valley, was a broad sketch of the latest accomplished merger in intercontinental transportation.

Edmund Ruffin was a type of the progressive scientific farmer of that early day, while John Taylor of Caroline was rather a fair sort of rural philosopher. Cyrus H. McCormick, with his harvesting machines, has more than local fame, and was a more than sectional benefit or even national benefit as an inventor. These, too, were Virginians. But there were others.

Crawford Long of Georgia will always be remembered in the alleviation of pain in the world. Marion Sims of South Carolina was a pioneer in surgery and modern hospital practice; the Le Contes of Georgia held high the torch of pure science. James D. B. DeBow of South Carolina and Louisiana occupied at New Orleans probably the first chair in this country of economics and statistics. He was creator of the most comprehensive compendium of the census, certainly before 1860, and a splendid model for later ones, and he was for seventeen years the active, far-seeing, indefatigable editor of a review equalled only by Hunt's, and sharing the honors of the thirty-year-old Southern Literary Messenger, which young men ought to read and study before they begin to sigh about Emerson.

If the spokesmen of the new-fangled Southern Education Scheme wish to escape absurdity, they may consider with profit the lives of such men as James M. Garnett of Virginia, A. D. Murphey of North Carolina, James H. Thornwell of South Carolina, A. B. Meek of Alabama, D. S. Walker of Florida, George Eustis and Alexander Dimitry of Louisiana, and other workers for a common school system adapted to the needs of a widely-scattered population.

If they are interested in real philan-

thropy, not the philanthropy of occupation as almoners of others' burdensome surplus, let them ponder upon the words and deeds of men like William Gregg of South Carolina, who saw in steady, gainful employment the salvation of the masses from poverty and listlessness.

These men were born into Southern air, breathed it all their lives, and yet escaped "persecution." With them lived a host of men from other parts, who somehow survived long enough to do efficiently for mankind. The South was proud of Joseph Caldwell, Elisha Mitchell, George Swain, Eliza Hammond, Abraham Baldwin, Alonzo Church, Jonathan P. Cushing, Charles T. Quintard, Nathan R. Smith, A. S. Abell, Edward Livingston, Daniel Pratt, David S. Kaufman, Sargent S. Prentiss, Henry A. Bullard, the Wadleys and the Hardins, who made their mark for good in science, statecraft, education, journalism, theology, transportation or manufacturing industry, while thousands of others, engaged in farming, commerce, the learned professions or mercantile life, became welded with the Southern people and gave that stock so much of its characteristically American stamp.

Broad-minded, far-reaching, practical ambitions of the fathers were hampered by the institution of slavery, prolonged beyond its time in the South that commerce, manufacturing and internal trade of other parts of the country might flourish. In the midst of that, however, there was something foreboding in Savannah's sending the first steam vessel across the Atlantic; it was rather shrewd for Charleston to buy for its railroad the first American-built locomotive; John C. Calhoun leading in Southern support of the germinal protective tariff of 1816 illustrated national statesmanship in a marked degree.

This record sketch must include a reference to the South of today, not a new South, but resuscitated America. The elders, like William A. Courtenay and James L. Orr of South Carolina, J. B. Killebrew of Tennessee, T. G. Bush of Alabama and Stephen D. Lee of Mississippi, know that Samuel Spencer of New York in transportation, Skelton Williams of Richmond in finance, John H. Kirby of Texas in vast lumber operations, Isham Randolph of Chicago in engineering, Woodrow Wilson of Princeton in education, D. A. Tompkins of North Carolina and W. B. Smith Whaley of South Carolina and Massachusetts in mill construction and management, Major Littleton Waller in relief march upon Tientsin, Lucien Kingsolving of Brazil, with the same missionary instincts as those of the Carolinian Boone in China, are no erratic accidents of the South. These men are the full-blooded heirs of the old South, carrying to fulfillment the practical dreams of the fathers.

Really, ought not young Dr. Alderman to release the South from "its probation as a member of the modern world?"

Dr. Alderman said some very pretty things about the old gray-headed survivors of the Confederacy who have patiently and persistently borne the burden and heat of the day of the South's redemption from ruin. He said he lifts his hat to these heroes of today. He ought not to stop at that. These men may be of substantial use to him. They knew the South when it hoped things and did things with one hand tied by slavery. They did not despair when both hands were tied in reconstruction. Now, they ought to have no reason to fear that enthusiastic misinformation is to discount them in compliments and to becloud in adjectives of fineness, sweetness and beautifulness the history of their country. Dr. Alderman, who is undoubtedly earnest in his oratory,

ought to talk with them a bit and learn what was their cause and what the South really was. For these old heroes of a quiet but none the less strenuous conflict, which has as yet hardly been chronicled save in statistics, ought to be relieved of apprehension that their labor has been in vain, and that their gray hairs may be brought down in sorrow to the grave.

In his oration Dr. Alderman touched upon what he called the Hebraic feeling of the people of the South. That allusion recalls a certain Hebraic feeling voiced in the 137th Psalm. The younger prophets of the South should read that Psalm. It appeals strongly to men who know something of the South, who view history by the large, who count definite conviction of more value than tide-waiting. These have seen with sorrow the barter of noble

names for place and pelf; they have noted the wanderings of a few after strange gods, and the unconscious absorptive capacity of the improperly trained, but they have not despaired. They have not langed their harps upon the trees within modern Babylon. They give the melody in tears for the past, in heaviness for ephemeral phases of the present, but in hope for those that are yet for to come. They sing the song of the South, the South of patriotism as broad as the continent, of devotion to the general well-being as deep as the ocean, and of respect for constitutional government as profound as their faith. Their constant cry is: If I forget thee, Oh, my country, let my right hand forget her cunning. If I do not remember thee, let my tongue cleave to the roof of my mouth.

THE SOUTH'S ATTITUDE TOWARDS NEGROES.

By COL. J. B. KILLEBREW.

[Written for the Manufacturers' Record.]

Assumptions that there is a marked antipathy, if not hostility, between the negroes and the white men throughout the South have their origin in the imagination of those individuals who have little or nothing to do with the negroes as laborers or as residents of the same locality. The writer of this has had the most abundant opportunities for studying this question. He resides in a tobacco-growing district, where nine-tenths of the labor employed is negro labor. He employs himself a considerable number, paying either wages or a portion of the crop, as may be found the most satisfactory. Those who are given a part of the crop are the most intelligent, and have acquired a knowledge of the methods of cultivation, curing and assorting preparatory to marketing the product. Those who are paid wages are generally unsettled young men, who are not fixed enough in systematic habits of industry to undertake the management and care of a crop requiring regularity of work, as well as knowledge of the many details to manage it successfully.

If there exists any sympathy or good feeling between the employer and the laborer anywhere in the United States, it exists in this tobacco-growing region. It is a well-known fact that months elapse sometimes without the necessity of speaking one single disagreeable word on the part of the employers to the laborers working on these tobacco plantations. Houses and firewood are furnished to the laborers without cost. They have their gardens and oftentimes their cows, their buggies and their horses. Their tables are abundantly supplied with healthful food, consisting of beef, pork or bacon, vegetables, milk, butter, molasses, coffee and corn and flour bread ad libitum. Their houses are well heated with wood burned in open fireplace. They are ample for the accommodation of the families that occupy them. The wives or daughters of the tenants cook, attend to the housekeeping, raise fowls for themselves and work for their households. They cultivate their own gardens, which are furnished rent free by the landlord.

The inexperienced men are paid from \$11 to \$15 per month the year round, and are supplied with full rations—enough, indeed, for their families, with the help of the vegetables from their gardens, the poultry from their henhouses and the milk which their families earn by churning or milking for the white family. The women also take in washing for the white people in the neighborhood, for which they are paid monthly. During the busy months of the summer the women, with their

older children, are frequently hired to pull worms and suckers from the tobacco plants.

There never was more harmony existing between any people than that between the thousands of negroes in the tobacco districts and the white people. This is in Tennessee. The same thing may be said of the cotton-growing districts of that State.

Now for North Carolina. The writer spent a considerable time in the cotton, peanut and tobacco districts of that State last fall. He found the same good feeling prevailing there. The negroes were polite, accommodating and greatly attached to the families of those that employed them. To illustrate this feeling it is only necessary to say that an old negro who had lived with the same man for probably a quarter of a century and had accumulated a handsome sum of money, made his will leaving it to an afflicted member of the white family, and left his old master executor of his will.

Another negro who had been foreman on a plantation for fifteen years bought with his savings a small farm, but he was so averse to giving up his own position as foreman that he rented his own place to another and declined to move.

There are in the county where these transactions took place 16,584 negroes and only 10,004 white citizens, showing about 38 per cent. of whites to 62 per cent. of negroes. For several years white political gamblers attempted to sow discord between the races. Bad feeling between employer and laborer was the trump card of these corrupt politicians, whose only chance of success was in creating distrust and disorder. They failed to win their political positions, and afterwards decamped, and the places that knew them will know them no more forever. Immediately the old condition of good feeling and sympathy was re-established, and the section has grown wonderfully prosperous since. Northern people cannot appreciate the kindly feeling that springs up between the races when outside malign influences are wanting. There is deep down in the negro's heart a warm affection for his "own white folks," a higher feeling of trustfulness, confidence and good-will for his old master and his master's descendants than he has for any other class of people in the world. He will work for them with the certainty that he will be treated fairly and paid promptly. The negro fully understands the good qualities of the Southern white men, who may curse at him occasionally and then give him a dollar for the pleasure of doing so. The Southern white man fully understands the negro. He knows his weak-

nesses and his strength, and he prefers him as a field laborer to any other nationality whatever. Those negroes who have done well and trained their children have not been those who are looking to the government for aid, or to the ballot for protection. They are the ones who have gone to work, stuck at it, hoarded their money, bought their homes and are now respected by black and white. If let alone, a very large proportion of the negroes of the South would become thrifty, but they will never acquire those arts and that industry necessary to create thrift as long as they feel that the government will in time come to their support. No more useful laborers ever lived in any country than the well-trained negroes of the Southern States.

In those districts of Tennessee and North Carolina of which mention has been made, laborers are paid every week or every month, and sometimes in advance, which latter practice, it must be confessed, is in contravention to the Lord's prayer—"Lead us not into temptation." Under such a temptation the laborers often sever their connection with the farm and take employment with others.

The great fundamental truth should be recognized that a negro is not a white man, nor a white man a negro. The black race have many most admirable qualities that fit them for useful and profitable work and commend them to the economic world. They are docile; they are hardy; they are hopeful; they are industrious when properly managed; they rarely indulge in fits of despondency, and they are good-humored and in general very pleasant and polite in manners. To one whom they respect they are true and loyal. To one who has won their affection by generous or charitable acts, they will undergo any hardships or deprivations to serve him. But they have the greatest abhorrence for a mean, stingy or exacting employer. To them such an one is not a white man, but "poor white trash," a term that expresses their loathing and contempt. Nor will respectable negroes show any respect for a white man who associates with them. They would resent the presence of one at their sociables as much almost as a white man would, under similar conditions and circumstances, resent their presence. These are facts which every employer of negro laborers knows to be true, but they are facts that the Northern man cannot grasp.

It is past comprehension why there should be insistence upon impracticable suggestions as to how the negro problem is to be settled. Every effort they have made in this direction has been a signal failure, as they candidly admit. Immediately on the termination of hostilities the freedman's bureaus were introduced and the negroes placed under their control. They did not work to the satisfaction of anybody; in fact, their operations became so nauseating to decent people that the government was glad to have an excuse for abolishing them. Next came the presence of the military in every country town. This only disorganized the labor of the Southern States without benefiting the negro. The cotton factories of the North and of Europe suffered almost as much as the Southern planters. The negro was clothed with the elective franchise next, of the import of which he had no more conception than he had of the beauties of Virgil or of the horrors of Dante. One fact, and a very material one at that, he soon learned, and that was that his vote was an asset; that he could sell it for cash. The gift of the franchise to the negroes all parties everywhere now pronounce a national blunder. When the Southern people, in their wisdom gathered from a costly experience, amended their

constitutions so as to winnow out the ignorant, the debased and the venal from among the voters, it was charged that they were taking away the constitutional rights of the negroes, when they only did that which Massachusetts had done many years before—limited manhood suffrage to the intelligent classes. The writer has seen much of the venality of the negro voters. A man in his employ was asked if he wished to go to the election. He replied: "No, Boss; I cannot afford it. I am getting one dollar a day for my work, and I can't get but fifty cents for my vote. The fact is, Boss, if I can't get any more for my vote than I have been getting lately I don't care if I never see another election. We used to get two and three dollars, and now, just think, I can get but half a dollar. No more elections for me, Boss, at that price."

There is but one solution to the so-called negro problem. Let it alone. Let it severely alone. Above all, let outsiders keep hands off, as the Southern people do when there are strikes elsewhere, some of which threaten the very social structure of this government. That is a much greater problem than the Southern problem of races, and the Northern people have all they can do to meet the exigencies engendered by a most turbulent population. Every interference from the outside but complicates the problem of the South, and, indeed, there would be no problem but for this interference. Booker Washington knows this to be true, and his policy is to make useful citizens of the negroes by teaching them how to work. He knows that without the moral support of the Southern people his mission is bound to prove a failure. Let the negroes alone. The Southern people, of all the white races, value their services most highly. Self-interest alone, if no other consideration presented itself, would prompt the Southern people to treat the negroes with justice and give them opportunities in life, but they will never submit to have their property virtually confiscated by putting the ballot in the hands of the negroes. The horrors of reconstruction made a more enduring impression on the Southern mind and heart than all the hardships and dangers of the battlefield.

The South today is by far the most peaceful, law-abiding and industrious portion of the United States. Where there is one malefactor there are ten thousand quiet, energetic citizens pursuing their daily vocations and increasing their fortunes. The negroes of the South, let it be confessed, are doing their part to advance its prosperity. Their work on the cotton, tobacco, rice and sugar plantations is one of the greatest factors in the world's progress. Let the South stand by the negro in everything short of social equality and the abuse of the ballot.

Glen Easton Coal & Coke Co.

Among the many new developments in the West Virginia coal fields is that which will be undertaken by the Glen Easton Coal & Coke Co. This corporation has just been organized, with W. G. Cronkright, president; H. T. Jones, vice-president; O. E. Hallam, secretary, and J. F. Williams, treasurer, all of Pittsburgh, Pa.; offices at 407 Keystone Building. The company has secured 4000 acres of coal land in Marshall county and near Moundsville, W. Va., and will develop same. An additional 11,000-acre tract is being negotiated for. Contracts for machinery will be awarded soon, and by January next it is expected that there will be opened six shafts, with a minimum output of 1000 tons of coal daily. Shipments will be made both by river and railway. The company will buy its own cars and build its own steamers from barges. R. H.

Rogers, ex-superintendent of mines of New York, is the engineer in charge of all the work involved in these developments.

WORKING FOR TURPENTINE.

Dr. Charles H. Herty's Device to Prevent Waste and Injury.

The bureau of forestry will shortly issue a bulletin describing a new method of working Southern pines for turpentine. This method is intended to replace the present wasteful and injurious system of boxing. As the bulletin cannot be published in time to reach turpentine operators before the present season's work begins, a circular has been issued in advance for the purpose of giving operators an opportunity to install the new system, and thus avoid the loss in quantity and quality of products consequent upon another year of work with the old system of boxing.

The bulletin will deal with the turpentine industry in general and with the economies that the new system makes possible. Important among the principal features is the production of 23 per cent. more turpentine than by boxing and the yield of only the higher grades of resin. The cost of the new equipment can be easily paid for from the extra returns of the first season, and there will also be an additional margin of profit. Moreover, since there is no box-cutting under the new system, the least possible damage is done the trees; shallow clipping only is necessary.

For the season of 1902 the production of spirits of turpentine by the old system of boxing amounted to 600,000 barrels, valued at \$13,200,000. The production of resin was 2,100,000 barrels, valued at \$4,200,000. The total value of the crop was thus \$17,400,000. Had the new method been applied to the same area of timber the production of spirits of turpentine would have been 1,050,000 barrels, amounting in value to \$23,100,000. The production of resin would have been 4,675,000 barrels, worth at current prices \$7,350,000. The total value of this product would have been \$30,450,000. The increased yield by the new system represents a net loss to the Southern naval-stores industry of \$13,000,000 from boxing in one season.

It is important to note also that the ordinary labor used for all boxing operations readily adapts itself without extra cost or training to the working of the new system.

The system was devised by Dr. Charles H. Herty, expert in the bureau of forestry and formerly a professor in the University of Georgia, and under his supervision received a thoroughly practical test at Ocilla, Ga., during the season of 1902. Its essential features are described in the circular by Mr. Gifford Pinchot as follows:

1. An earthen cup of the same capacity as the standard box is used to catch the crude turpentine. At the top of the cup there is a stout rim with a half-inch hole, by which the cup is suspended from a nail driven into the tree.

2. Two thin galvanized sheet-iron gutters convey the resin into the cup. These gutters are each two inches wide and from six to twelve inches long, and are bent lengthwise through the middle at an angle of about 120 degrees, thus forming an angled trough.

The system can be applied to trees previously boxed as well as to unboxed timber. In placing the equipment on unboxed timber two flat faces are provided by means of cornering axes, a right-handed and a left-handed man working together. The first strokes with the axe are the same as in cornering the box. Next, by

upward strokes of the axe, enough of the bark and sapwood is removed to form flat faces one-half as high as the distance between their outer edges. In this way the two men prepare a double face, corresponding in width with that of the box which would have been cut in such a tree.

Two inclined converging incisions are then made, one across each flat face, for the reception of two sheet-iron gutters. The incisions are made by a right-handed and a left-handed workman, each with a broadaxe having a straight-edged blade twelve inches wide. The men work on opposite sides of the tree. Each man directs the head of his broadaxe somewhat downward, and with one stroke makes an inclined gash about one-fourth of an inch deep across the flat face on his side of the tree. The incisions are made slightly deeper at their lower ends. The gash on one side should be made about an inch lower than on the other, but both should be so placed that there will be a space about three inches wide above them for the passage of the hack in the later chipping of the faces. Into the incisions thus made the galvanized-iron gutters are firmly inserted, either by pressing one edge upward into the cut, or, better, by slipping the gutter endwise into the upper end of the cut and pushing it downward into place. The lower end of the upper gutter is brought to and then forced down one-fourth of an inch beyond the angle where the two faces meet, while the inner end of the lower gutter should pass beyond the angle about one and one-half inches, thus forming a spout to convey the resin from both gutters into the cup below.

In hanging the cup care should be taken to drive the nail (a common six-penny wire nail) at a sharp downward incline, and deep enough to leave only about three-fourths of an inch exposed. The nail is driven on the same side of the tree with the upper gutter, so that the cup when hung shall not be more than half an inch below the end of the spout of the lower gutter, and the nail shall be as far as possible from the dripping resin. This point is of great importance, for when the cups are filled with rain water, the fresh resin, lighter than water, at first forms a floating disc on the surface. As more resin drops on this disc enlarges until it touches and becomes anchored to the wall of the cup. If the cup is properly placed this point of contact will be well away from the nail hole, which will consequently not be clogged by the resin. As more resin drops upon this floating disc the growing weight will shift the center of gravity and cause the viscous mass to sink lower along the side of the cup nearest the spout; at the same time the water-level will rise until the nail hole permits an overflow. Thus each fresh drop of resin will force out a drop of water, while as the water does not rise to the top of the cup no resin is floated over the edge. After the streak has practically ceased running the water above prevents the resin in the cup from losing its spirits of turpentine by evaporation.

Where the equipment is to be placed on trees which have previously been worked under the box system, it is unnecessary to provide the flat faces described, as the surface left by the chipping of the previous season answers the same purpose. One of the chief advantages of the new method is that the cup and gutters are placed each season immediately below the streak, thereby insuring a yield greater in quantity and of better quality than is possible where the resin must flow over a long dry face to reach the box. On the higher faces the workmen with the broadaxes change sides, the blow being then delivered by an overhand stroke.

The installation in detail is as follows:

On Virgin or Unboxed Timber.—Three pairs of workmen (right and left handed), with cornering axes, lead the squad, cutting the flat faces for the gutters. These are followed by a right-handed and a left-handed laborer, who make the incisions with broadaxes for the gutters. These eight men work back and forth across the drift in narrow lines, and are followed by eight others, who quickly insert the gutters before the incisions begin to close, drive the nails and hang the cups. In order that no time be lost, the cups should be distributed to each tree by a boy following closely after the axemen. In making the incisions with the broadaxe care should be taken that the head of the axe is turned down only slightly, otherwise the inner half of the gutter may have too much slope, and upon the formation of the scrape in it the resin from a fresh chipping will run over the outer edge and be wasted. Two men are usually able to cut about 3000 faces per day.

Two inspectors, one for the axe work and one for the gutter work, are required. Tallying the faces is unnecessary, as an accurate record of these can be kept from the number of crates of cups used.

On Boxed Timber.—The six laborers with the cornering axes are unnecessary in applying this system to boxed timber, as the chipping of the previous season furnishes the flat faces required. The remainder of the work is therefore the same as on virgin or unboxed timber.

Whether the cup system is applied to virgin or to boxed timber, the best labor available should be assigned to the axes. If that work is well done there will be no difficulty with the rest.

The following descriptions give in detail the essential features of the cups and gutters required by the new system.

The cups used are of clay, and are similar to flower pots. The form recommended has the following dimensions:

Top (diameter inside).....	5½ inches.
Bottom (diameter inside).....	3½ "
Depth.....	7 "
Rim (deep).....	2 "

The bottom should be oval inside and flat outside, and the side walls one-fourth of an inch thick. A nail hole half an inch in diameter should be placed half an inch from the top of the rim. This cup has the same capacity as the standard box.

On account of the variable size of trees, and consequently of the width of the faces, it is best to purchase the gutter iron in long strips two inches wide, which can be subsequently cut into the desired lengths. For this purpose a pair of No. 8 tinners' snips can be used, but care should be taken to avoid turning the corner of the iron where the cut is first made. One thousand and eighty-six pounds of No. 20 or 2050 pounds of No. 28 gauge galvanized sheet iron will furnish gutters for one crop of 10,500 cups. The gutters commonly needed range from six to twelve inches long. After the iron is cut to the proper lengths it is necessary to bend each piece to an angle of about 120 degrees along its full length. No expensive apparatus is needed for this bending; a simple wooden machine costing about fifty cents to make is sufficient. In operating this device the flat piece of gutter iron is dropped into the narrow slit and the handle is pulled forward until the motion is stopped by the beveled edge. The bent gutter is then removed. A few minutes' practice enables a boy to bend from twenty to twenty-five gutters per minute.

The gutters (six to twelve inches long) are carried by the guttermen in boxes made with sloping sides and partitioned for the different lengths.

The following precautions should be carefully observed in placing the gutters:

(1) The gutter must pass into the wood

throughout the whole width of the face; otherwise there will be a leakage of resin behind it.

(2) The upper and lower gutters must be at least one inch apart at their inner ends on the angle of the faces, so that there shall be no choking by the accumulated scrape.

(3) The inner end of the upper gutter should come to the angle at the middle of the faces and project not more than one-quarter of an inch beyond it.

(4) It is absolutely essential to the successful working of the apparatus that the lower gutter form a spout by extending about one and one-half inches beyond the angle at the middle of the faces.

(5) Both gutters must be pushed deep into the wood at the angle of the faces.

The tools used in the process are:

Cornering Axe.—This axe, common on all turpentine places, is the best tool for cutting the flat faces for the gutters on virgin timber.

Broadaxe.—Two broadaxes with blades twelve inches wide with straight edges are to be set on short straight handles, one for a right-handed and one for a left-handed man. On virgin timber a stock broadaxe, single-beveled, is used. On boxed timber a double-beveled broadaxe is preferable.

Claw Hatchet.—This is the only tool required by the guttermen. It may be used in driving the gutter in case it sticks in the incision, and answers also for driving the nails upon which the cups are hung and for the removal of bark, etc., in order to hang the cups properly.

The chipping operation is precisely the same as in boxed timber. The upper gutter is placed about three inches below the chipping surface, thus giving abundant space for the passage of the hack.

In pulling no change whatever is made in the usual practice on boxed timber; the puller passes easily between the gutter and the streak.

The tool used for dipping the cups is a steel blade eight inches long, two inches wide at the lower end, and four inches at the upper end. This may be made from an old saw and fastened to a wooden handle extending a little over the upper end of the blade. Where the cups have oval bottoms the lower end of the dipping knife should be rounded to fit them.

In dipping, the accumulated scrape is first loosened from the gutters by means of this dipping knife and pushed down into the cup. The cup is then removed from the nail and the resin is cut from the walls by a circular movement of the knife and emptied into the bucket. The cost of equipment for one crop is as follows:

Cups (10,500) at 1 1/4 cents each.....	\$131 25
Gutter strips (1386 pounds galvanized iron, No. 29 gauge, cut in two-inch widths).....	103 27
Cutting and shaping gutters.....	4 00
Nails (six-penny wire).....	1 05
Freight charges (estimated).....	30 00
Labor at trees.....	80 00
Total.....	\$349 57

The prices given are those at which responsible firms will at present furnish the material required. If the cups be placed on boxed timber the item of labor may be reduced to \$30, as the chipping of the previous season furnishes, without further labor, the flat surfaces for the gutters, which slide more readily into the incisions on old faces than into those on freshly exposed sapwood. The estimated freight charges are based upon a material reduction in freight rates recently offered by principal railroads in the turpentine belt.

In addition to the instructions here given, the bureau of forestry offers to all operators without charge the assistance of Dr. Charles H. Herty, who will personally direct in the field the instalment of the new method. Applications for assistance should be directed to the Forester, Bureau of Forestry, United States Department of Agriculture, Washington, D. C.

OIL AT BEAUMONT.

Production Equal to the Shipments to Market.

(Special Cor. Manufacturers' Record.)
Beaumont, Texas, February 28.

There has been very little change in the oil situation in the past two or three weeks. Crude oil is selling freely at 65 cents a barrel in tanks, and from 68 to 70 cents a barrel f. o. b. Gladys or Beaumont. It is freely predicted that oil will bring \$1.25 a barrel in tanks before the rise begins to recede. This prophecy is based on supply and demand, many believing that Spindle Top is playing out so fast that there will be a veritable scramble for oil within a short time, but in that impression I think the prophets are reckoning without their hosts. I do not pretend to deny that the production on Spindle Top has diminished greatly within the past ninety days. The depth of the oil in an average well today is not greater than thirty feet, and compressed air has been dispensed as a means of getting oil out of the wells, and in its stead the standard rig and the steam head have been employed, with the best results being obtained from the first mentioned. Notwithstanding the truth of these statements, a great deal of oil is being produced; in fact, about as much as is being shipped out. The fuel consumers of Louisiana are buying all the oil they can get at present prices where they have storage capacity for it. This applies to the sugar planters and other consumers whose plants are not being operated now, but which have been shut down for the season. They are buying the oil and storing it for the next season's run. The general impression among oil men who are producers is that the Standard is showing its hand to a great advantage in the Beaumont field just at present, but whether the men who believe that such is the case have sufficient grounds on which to base their belief is a question. It is pretty much the same in oil matters as it is in other commercial matters, and that is, the most successful producers are the men who have been the tireless toilers. The fact that there are only about 100 wells out of a total of 491 that are producing today on Spindle Top Heights is evidence that most of the troubles the average oil man is heir to are due to bad judgment and the exercise of poor judgment. Although it is admitted by all who claim to know that there are too many wells on Spindle Top, others are having wells drilled. Several of the wells that have gone dry within the past six or eight weeks have been drilled into the second sand, and are producing oil in paying quantities.

The Sour Lake Springs field is recognized as a field of more than ordinary importance, and when the weather settles there will be a great rush to it with drilling rigs. A railroad from Beaumont to Sour Lake Springs is sure to be constructed, and important developments may be expected within the next ten days.

RAILROADS AND PEOPLE.

Community Progress To Be Enjoyed in These Corporations.

In a recent address before the School of Commerce of the New York University, Mr. M. V. Richards of the land and industrial department of the Southern Railway, discussing the relations of the railroads and the people, said:

"No section of this country can now be progressive, self-sustaining, intelligent, or even habitable by any large numbers of people if remote from a railroad. Wherever the iron road is laid its track marks the route of progress, enlightenment, education, enterprise and comfortable environment and growing wealth. Wherever

the railroad is not found the dusty country roads lead to shambling homes, to half-tilled fields, to hoary jungle, to barren wastes and stagnant mental and material conditions. The railroad, then, is essentially a modern necessity; it is emphatically the pre-requisite of all concerted human effort toward self-advancement and communal expansion. It is the people's friend and benefactor. If the railroads were once operated for the particular benefit of the managers and directors, that time is past. Railroads run upon that principle or for that sordid purpose inevitably went down into bankruptcy. The modern railroad is striving always to get in touch and to keep in touch with the people who live and labor within reach of its lines. It is ever and tirelessly seeking alliances with local forces with the direct and earnest purpose of co-operation. It is ceaseless in its efforts to build up every available section or portion of that territory, to develop its resources, to open to it new or better markets, to introduce into it new industrial enterprises, to aid it in its practical and honest ambitions. Such a course, such a purpose, such a mission is the one adopted by the great railway system I have the honor to represent and to serve. Organized but a few years ago—less than eight years—it began its career as a common carrier impressed with the wisdom, the necessity, the possibilities of co-operation, of mutual aid between itself and the inhabitants of the country through which its lines extended or were being constructed. That policy has ever and steadily governed all its operations, its management and its plans of extension and development. And the success of that policy is today splendidly exhibited in the increase and prosperity of its towns and villages, its farm-land districts and its mining regions. Since the Southern Railway began operating in the South thousands of factories have been established along its lines; towns have expanded into cities and villages into towns; educational institutions have multiplied; coal and iron mines—those mighty sinews of commerce and weapons of industrial combat—have been opened in hundreds of localities where precious ores had lain buried through the hoary centuries untouched, unsought and useless.

"Probably no occupation, followed distinctively as a business, outranks today the vocation of the railroad official. Once (not so many years ago) the office of railroad president was supposed to be a sinecure, and in point of fact he was not seldom a figurehead. The offices of president, general manager, superintendent (and also sometimes attorney) were concentrated into one individual not unfrequently, and yet they did not weigh as heavily, all combined, as do now the duties and responsibilities devolving upon the president or the general manager alone. No longer is the railroad management a matter of routine with occasional local problems. Mediocrity has long since been relegated to its natural avenues of useful yet easy employment, while the best obtainable talent, the widest practical experience, the keenest acumen and the most enduring energy of both mind and body are demanded to fill the high official positions constituting the management of a great railway line.

"In a true sense, then, the railroad is a public benefactor, and this, indeed, is the broad view held in general by the business public, by the man of large concerns, by the utilitarian."

Offer for a Shipyard.

It is announced that two citizens of Newport News, Va., have offered to give a site of 150 acres near Newport News to any shipbuilding company or party of men

who will establish a shipyard employing 1500 men. The property offered is less than four miles above Newport News. It has a water-front of 2000 feet, and lies within a mile of the main line of the Chesapeake & Ohio Railroad.

Arkansas Anthracite.

Mr. E. T. McConnell of Clarksville, Ark., finds that the prospects for the development of the coal mines of the anthracite district of the State are improving every day. Referring to this belief, the Arkansas Gazette says:

"There are now in operation eleven shafts in the district, and in course of the present year there will probably be a number of others begun, if not completed. It would be hard to estimate, he says, the total output of the mines, from the fact that there are several stations from which the coal is shipped. He is himself largely interested in the fields, but has never had anything to do with the active management of the properties. Two of the mines have turned out in the present season not less than 80,000 tons of the best semi-anthracite. Mr. McConnell emphatically says that the great Pennsylvania strike of last year was the making of the Arkansas mines. Before that time their product was hardly known outside of the State, and if known, the consumers were suspicious of a change from the Pennsylvania anthracite. Now that they have been forced to use the Arkansas coal, they have found that it is just as good, and in some cases better than the Eastern product, and the orders from the large Western manufactories continue to come in, though the Pennsylvania trouble stopped several months ago."

Oil in Oklahoma.

Mr. R. W. Rayel of Wildman, Okla., who has been prospecting in that Territory for fourteen years, writes to the Manufacturers' Record as follows: "We have a belt of country seventy miles long and fifteen miles wide where you can strike oil at from twenty-five feet to 150 feet anywhere you choose to drill. In one well we struck lubricating oil at 100 feet; at 200 feet another stratum of oil, with better illuminating qualities, and at 300 feet a fine quality of illuminating oil. But everything is practically undeveloped, with no money to be had. If some of your manufacturers of oil drills could be induced to investigate this belt and to develop oil in one well, they could sell hundreds of drills and engines; or if some people who wish to invest in good copper mines would merely investigate the resources of Southern Oklahoma, they would find one of the most inviting fields in the world."

Coal from New South Wales.

It may not be generally known that one of the customers for the coal of New South Wales is the United States. Of the 2,906,764 tons exported in 1902 from Newcastle to places beyond New South Wales the United States took 180,290 tons, a falling off of about 25,000 tons from the business of 1901. The consumption of Newcastle coal in 1902 was also less than that in 1901 in several of the Australian States, in the Sandwich Islands and at other points, but these deficiencies were to some extent counteracted by the greater business done at Hongkong, with the Philippine Islands and with the west coast of South America, Chili still retaining its place as the best of Newcastle's foreign customers, and taking 428,290 tons in 1902.

On February 28 nine ships cleared from Galveston with cargoes of a total value of \$2,375,612.

Literary Notes.

Germany. By Wolf Von Schierbrand. Publishers, Doubleday, Page & Co., New York. Price \$2.40.

Germany has obtruded itself upon the attention of the United States in more ways than one during the past few years. We heard of Germany about the time of the battle of Manila Bay, and more recently in connection with the Venezuelan embarrassment. We shall continue to hear from Germany, for in this day of commercial expansion and colonialism, Germany, which has preceded us somewhat in both particulars, has a right to be considered, and must be considered coolly and sanely for the good of everybody concerned. The proper basis for such a consideration is knowledge on our part of Germany and vice versa. The means of obtaining such knowledge are presented to us in this work of Mr. Von Schierbrand. As a newspaper correspondent on the continent for many years, involving a long residence in Germany, he has had abundant opportunity to get at the heart of things, both as to Germany's internal conditions and to the empire's world-embracing ambitions. That he has availed himself of the chance in a thorough, comprehensive and philosophic manner is proved by this book, in which, with wonderful freedom from bias, he has endeavored very successfully to give Americans a full conception of the traits of their German cousins. In separate chapters he discusses Germany as a world-power, the Kaiser as he is, the Kaiser's personal influence, the Kaiser's personal life, Germany's political turning-point, the Reichstag and political life, rise and growth of socialism, the Polish problem, the agrarian movement, Prussian hegemony in Germany, Pan-Germanism, the tariff question, commerce and manufacturing, Krupp and Siemens, two typical modern Germans, shipping, the army, the navy, education, social customs, colonies, German royal courts, press conditions, art and literature, German chancellors and the outlook for Germany. Mr. Von Schierbrand does not undertake to play the prophet, but he has presented a mass of interesting facts in attractive diction about Germany, has weighed the weak points and the strong points of the empire in comparison with those of the United States, and has given a basis for a great deal of calm thought on the part of American statesmen and American business men for the determination of immediate and future relations between this country and Germany. Mr. Von Schierbrand believes that Germany must and will seek close and intimate understanding with this country and England, and that these three great powers are to become peaceful dictators of the world for the carrying of civilization to the farthest corners of the globe. He believes that in the empire a new great liberal party will arise powerful and creative in its tendencies, dominated by the great manufacturers, merchants, bankers and financiers, and supported by millions of voters who now turn to socialism as a protest against reactionary influences, and that commercial and industrial advance for Germany will no longer be checked. He sees with the approaching honest and lasting truce with France and Russia the disappearance of the necessity for a large standing army, sapping the vital forces of the nation, but he sees in a large navy the means of backing up trade on the seas and the teacher of civilization. But the book should be carefully read to determine all that Mr. Von Schierbrand believes, and the reader cannot fail to obtain an intelligent view of the main institutions and the main social, political and industrial forces in German life.

"The Manufacture and Properties of Iron and Steel." By Harry Huse Campbell, general manager of the Pennsylvania Steel Co. Publisher, the Engineering and Mining Journal, New York. Price \$5.00.

This authoritative treatise, first published six or seven years ago, has been minutely revised and thoroughly rewritten, and much entirely new and original matter has been added. The author recognizes that though many engineers wish a brief statement of the art of making steel, it is quite impossible to make that and at the same time to discuss the metallurgical details involving much shop talk understood only by the metallurgist. In this new edition he has devoted the first part to a sort of introduction for the benefit of readers who are not metallurgists. The introduction gives simply the main principles, without pretending to deal with all the qualifying conditions. In Part II is embraced the ground covered by the first edition of Structural Steel, but many chapters have been entirely rewritten, and a great deal of new matter has been added, based upon experiments and investigations conducted under the author's direct observation at the works of the Pennsylvania Steel Co. at Steelton. The topics discussed include the errancy of scientific records, the blast furnace, wrought iron, steel, high-carbon steel, the acid-Bessemer process, the basic-Bessemer process, the open-hearth furnace, fuel, the acid open-hearth process, the basic open-hearth process, special methods of manufacture and some items affecting the costs, segregation and homogeneity, influence of hot working on steel, annealing, the history and shape of the test piece, the influence of certain elements on the physical properties of steel, classification of structural steel, welding and steel castings. In Part III, with an introduction comprehensively treating of management, employer and employed, and tariffs as factors in industrial competition, the author makes a new departure of interest to a much wider class than engineers in describing each separate iron-producing district in the world, including the United States, Great Britain, Germany, France, Russia, Austria, Belgium, Sweden, Spain, Italy and Canada. In this description he embraces the salient points of foreign and American practice under the conviction that each country has something to learn from every other, and with the purpose not of recording complete investigations, but of furnishing certain fundamental facts for the equipment of an engineer or metallurgist proposing to visit any of the fields. He has prepared an appendix setting forth the statistics of the iron industry in the world since 1880, and has wisely given throughout his volume more space to theory and less to descriptions and drawings, because the latter become ancient before a volume of this kind can be printed and circulated, while the fundamental principles of metallurgy do not change.

The Engineer of the Twentieth Century.

At the twenty-fifth anniversary of the Engineers' Club of Philadelphia Mr. Charles F. Scott, president of the Engineers' Society of Western Pennsylvania, and president of the American Institute of Electrical Engineers, spoke on the engineer of the twentieth century. Mr. Scott pointed to the engineer of years ago as of trivial consequence compared with men in the so-called learned professions; he showed how they had come to form a profession of their own, and dealing with the tendencies of the twentieth century and the engineer of that time, he said:

"He is to deal with large affairs in a large way. He is to be closely related to every department of modern life. He is to

become a chief factor in adjusting and operating the intricate mechanism of a new civilization. He is to advance to administrative positions for which his knowledge and his training peculiarly fit him. * * * Sound judgment, breadth of view, integrity of character, the ability to understand and to control men as well as matter, and to direct human forces as well as physical forces, are essential to the engineer of the future."

The Sewanee Review, edited by Dr. John Bell Hennemman and Dr. B. J. Ramage of the University of the South at Sewanee, Tenn., has in its January quarterly number the following papers: "The Drama in the Eighteenth Century," by Brander Matthews; "An Estimate of Thackeray," by J. Douglas Bruce; "The Hebrew Prometheus; or, the Book of Job," by George Downing Sparks; "Sir Thomas Browne," by Clayton M. Hamilton, and "The Outlook to the East," by Oscar L. Triggs. In addition there are interesting reviews of Harrison's "Complete Works of Edgar Allen Poe," of Bliss Perry's "A Study of Prose Fiction," of Briggs' "The Incarnation of the Lord," of three new numbers of the English men of letters, and of several volumes of current fiction.

A Perfect Table Syrup.

Recently Judge Joseph Tillman of Quitman sent the Morning News a package of Georgia cane syrup made under his process, with the request that it be given a table test in comparison with other syrups. The several persons who participated in the test were unanimous in pronouncing the Tillman process syrup far superior and preferable to all others. In color, consistency and flavor it left nothing to be desired. It was a pure, wholesome, delightful table syrup there is none better, and it may be doubted if there is any other so good to be had in any market. And the process is simple and cheap, placing it within the reach of all syrup makers.

This perfecting of a simple process for making pure syrup from the juice of sugarcane means much for South Georgia and Florida. It means the development of an industry in this section which will make it one of the most prosperous in the country. The cane will grow luxuriantly in all of the flat-land country, formerly covered with pine forests, but now made available for agriculture by the operations of turpentine and timber men. Some of the farmers of Brooks county have made as much as 1000 gallons of syrup to the acre of sugarcane. What this means to the producer is made clear when it is stated that Judge Tillman hopes to work the price up to \$1 per gallon in the home market in the near future. But even at half that price per gallon, and with the figures of production much less than those mentioned above, manifestly there are profits, large profits, to be made in the syrup industry in South Georgia. The Northwest has nothing in the way of crops that can begin to compare with our sugarcane.

These facts, which are capable of demonstration at any time, are bound to reach the ears and attract the attention of those who are seeking homes where profitable crops can be produced. Thus it is reasonable to think that the perfecting of a syrup process will have the effect of attracting immigration and drawing to us in numbers the desirable class of white needed for the development of this section.—Savannah Morning News.

The Southern Ice Exchange in convention at Atlanta elected Messrs. W. H. Howe of Nashville, Tenn., president; C. D. Mayfield of Richmond, Va., vice-president, and W. E. Worth of Wilmington, N. C., secretary and treasurer.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

SELMA & CAHABA VALLEY.

Plan to Build from Selma to Birmingham, to Connect with a Barge Line.

Concerning the report that a meeting of the company will be held on March 23 at Selma, Ala., Mr. H. L. McKee, president, writes from Meridian, Miss., to the Manufacturers' Record as follows:

"The stockholders of the Selma & Cahaba Valley Railroad Co. have been called to meet for the purpose of considering some offers to build and equip the line of road projected from Selma, on the Alabama river, to Birmingham, or near there, on the north.

"This line has been surveyed some time, and has been dormant, awaiting a favorable condition to take it up, which is now apparent. The handling of coal for the Gulf by a 50-mile rail haul and barge line from Selma will reduce the cost so materially that the business offered the road, when finished, will take care of it without any advantages other than this, but the connections at Birmingham will insure a good business from points beyond.

"The road runs through the largest and finest body of long-leaf pine in the State, and equally so it may be said of hardwoods. The route takes it through the center of the Cahaba coal basin for some thirty miles, and secures not only all the coal that it can handle, but an immense amount of marble of fine quality and brown ores of the best character. The maximum grade is 1 per cent., and this in favor of the load, and, with a small part of the line excepted, is easily graded. Parties interested in the development of Selma as an industrial center are behind the movement."

Seaboard's Annual Report.

The second annual report of the Seaboard Air Line Railway for the year ended June 30, 1902, shows: Gross earnings from railways \$11,068,478.29, increase as compared with the next preceding year \$642,198.50; gross earnings from water lines \$511,337.08, increase \$8565.41; total earnings from operations \$11,579,815.37, increase \$650,763.91; operating expenses and taxes \$8,144,220.15, increase \$23,859.09; net earnings \$3,435,595.22, increase \$626,904.82; total income \$3,471,552.92, increase \$651,479.62; surplus after paying interest, rentals, etc., \$820,256.48, showing an increase of \$490,597.43.

The balance sheet shows the common stock to be \$37,500,000 and the preferred stock \$25,000,000; the cost of the road, equipment and property, \$103,540,506.19. The total assets are \$123,723,901.41.

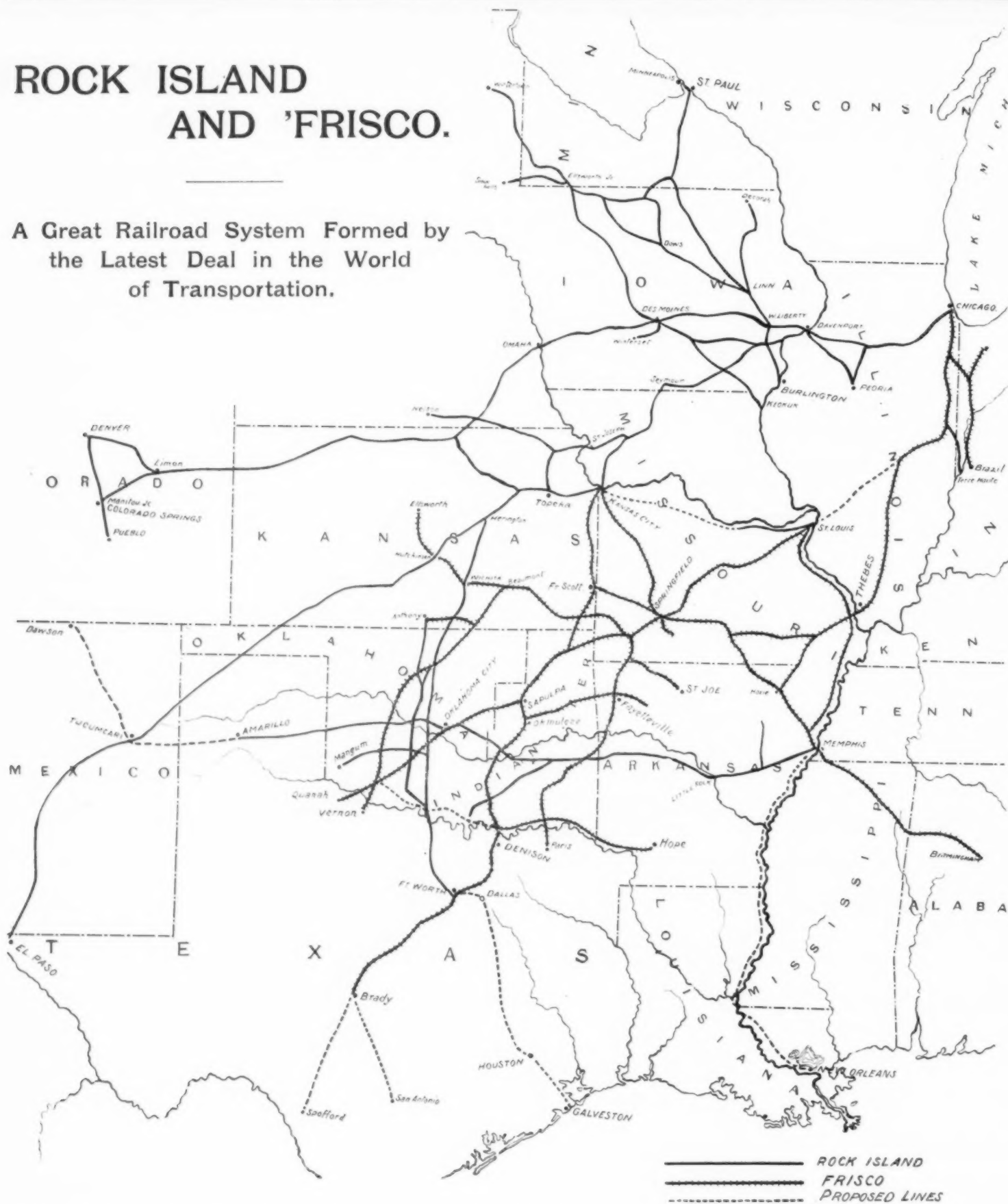
Fayetteville & Albemarle.

Messrs. A. C. Wilcox & Co., 55 Liberty street, New York, write to the Manufacturers' Record as follows:

"The Fayetteville & Albemarle Railroad is projected from Fayetteville, N. C., west through Southern Pines, Aberdeen, Little Mills, Mangum and Norwood, the west terminus being Concord, N. C. Considerable work has been done, and it is the intention to complete to Mangum or the Pee Dee river by October of this year, a distance of eighty miles, the balance to be completed next year, making a total of about 120 miles. The line runs through a timber and farming country for the most part, although there is considerable mineral on the line west of Mangum. The bonds are just being placed on the market, and it is expected to push the work."

ROCK ISLAND AND 'FRISCO.

A Great Railroad System Formed by
the Latest Deal in the World
of Transportation.



The accompanying map shows the result of the Chicago, Rock Island & Pacific Railway Co.'s purchase of the St. Louis & San Francisco Railroad system. The Rock Island system has 7122 miles of line and the 'Frisco has 5079 miles, a total of 12,201 miles, but this does not include other roads controlled by interests affiliated with those which dominate the Rock Island; for instance, the Pere Marquette Railroad, which has 2204 miles of line, and, if considered as part of the Rock Island system, would bring the total to 14,405 miles. The map shows only those roads which are generally known as being in either of the two systems. If the Pere Marquette should be added the Rock Island would gain an extension to De-

troit and Toledo, as well as a large system in the southern peninsula of Michigan.

The Rock Island system is composed of the Eastern district of the Chicago, Rock Island & Pacific Railway, 1826 miles; Northern district, 1367 miles; Western district, 2270 miles; Chicago, Rock Island & Texas, 150 miles; Chicago, Rock Island & Mexico, 92 miles; Chicago, Rock Island & El Paso, 111 miles; Choctaw, Oklahoma & Gulf, 1031 miles; Choctaw, Oklahoma & Texas, 135 miles; Searcy & Des Arc, 25 miles, and the St. Louis, Kansas City & Colorado, 114 miles.

The 'Frisco system is composed of the St. Louis & San Francisco Railroad, 3043 miles; the Kansas City, Memphis & Bir-

mingham Railroad, 286 miles; Fort Worth & Rio Grande Railway, 146 miles; Red River, Texas & Southern Railway, 89 miles; Birmingham Belt Railroad, 16 miles; Chicago & Eastern Illinois Railroad, 737 miles; St. Louis, Memphis & Southeastern Railroad, 257 miles; St. Louis & Gulf Railway, 230 miles; St. Louis, San Francisco & Texas Railway, 5 miles; Paris & Great Northern Railroad, 15 miles; Blackwell, Enid & Southwestern and Blackwell, Enid & Texas railways, 255 miles.

The Rock Island proposes to build from Fort Worth and Dallas to Houston and Galveston, Texas, and it is now completing a connection between St. Louis and Kansas City. It will also extend from

Amarillo, Texas, to Tucumcari and Dawson, N. M. The 'Frisco's proposed extensions are: Northeast from St. Louis to make a direct line from that city to Chicago; Memphis to New Orleans; Madill, I. T., to Lawton, Okla., and Brady to Spofford and San Antonio, Texas.

By the purchase of the 'Frisco the Rock Island will secure what it has long desired, a direct line from Chicago to St. Louis, and furthermore, a line from St. Louis to Memphis, Tenn., and Birmingham, Ala. It also gains a network of lines in Arkansas, Missouri, Indian Territory and Oklahoma, as well as an extension into Texas, and it will doubtless build the 'Frisco's proposed line down the Mississippi from Memphis to New Orleans.

NEW LINE IN FLORIDA.**St. Mary's, Suwannee & Gulf Railway Will Reach Fernandina.**

Mr. Frank Drew, superintendent of the Suwannee & San Pedro Railroad, writes from Live Oak, Fla., to the Manufacturers' Record concerning the proposed St. Mary's, Suwannee & Gulf Railway as follows:

"The incorporators of the St. Mary's, Suwannee & Gulf Railway Co. are interested in the Suwannee & San Pedro Railroad Co., and it is intended to practically make it an extension of this road from this point to the town of Fernandina, or rather to a point opposite the town, where we will have good water frontage and dock facilities equal to any on Cumberland Island, giving us about twenty-six feet of water.

"From this point south the Suwannee & San Pedro runs through a territory rich in timber, naval stores, phosphate, and where the lands are susceptible to improvements for farming and truck-growing.

"The Suwannee & San Pedro is now operating for fifty-three miles, and opens up a virgin forest estimated by experts to contain two-thirds of all of the virgin timber in South Georgia and Florida, and tributary to the Atlantic seaboard. This country is just now undeveloped, and as the stockholders are all residents of the State and have local interests here, it is our purpose to develop this country to the fullest extent. Our engineer in charge is Mr. R. N. Ellis, Jr., with office here."

Boston Mountain Railway.

The Boston Mountain Railway Co. has been chartered in Arkansas, with \$500,000 capital, which, it is stated, will cover the cost of construction and equipment to build a railroad fifty miles long, following the north bank of the Buffalo river in Searcy, Baxter and Marion counties.

The line will, it is stated, be independent, and will be built and operated for the convenience of the zinc miners, but will connect with the White River branch of the Missouri Pacific, with the extension of the St. Louis & North Arkansas from Harrison to Leslie and Little Rock, and possibly with the proposed Morning Star Railroad. It will cross the Buffalo river about two miles from where it joins the White river, and will probably run through the towns of Duff and St. Joe, in Searcy county. The headquarters of the line are to be at Winnerva, Baxter county.

The articles of incorporation which were filed by Walter B. Harris of Cape Girardeau, Mo., show that the incorporators are E. C. Cooke, Sr., of Buffalo, Ark.; P. H. Gehr, Albert Garver, Beulah E. Curlee, W. Howard Brown, P. E. Bratton, Mountain Home, Ark.; James F. Brooks, Leon J. Albert, A. R. Ponder, L. J. Albert, Jr., Cape Girardeau, Mo.; W. B. Harris, Winnerva, Ark.; John Tapek, St. Mary's, Mo., and H. L. Ponder, Walnut Ridge, Ark.

Pushing On to Birmingham.

It is reported that the Brunswick & Birmingham Railroad Co. has purchased the Ocilla & Irwinville Railroad, extending from Ocilla, Ga., to Irwinville, Ga., ten miles, the purchase being made from the Ensign-Oskamp Lumber Co., which owned the line. The Brunswick & Birmingham is now completing a connection from Wrays to Ocilla, which will enable it to make the Ocilla & Irwinville road part of its main line. It is further reported that the Brunswick & Birmingham will complete a connection from Irwinville to the Georgia Southern & Florida Railway in about ninety days, and that

the road will then be pushed west via Leesburg and Dawson to Eufaula, Ala., from which point it will go to Birmingham, Ala.

Fairmont & Colfax.

One of the incorporators of the proposed Fairmont & Colfax Railroad writes to the Manufacturers' Record from Fairmont, W. Va., saying that the line is to begin at a point just below Fairmont on the east side of the river at the Fairmont, Morgantown & Pittsburg Railroad bridge. It will run thence up Hickman's run and on to Colfax, a distance of about four miles. The object of the road is to open up industrial sites in the Hickman Run valley. It will connect with the Baltimore & Ohio Railroad at both ends, and will cross the country, making a route about four miles shorter than the present route of the B. & O.

Hinton to Newport.

Mr. Henry E. Hardtner, president of the Natchez, Uruia & Ruston Railway, which is now twelve miles long from Uruia to Hinton, La., writes to the Manufacturers' Record confirming the report that it will build an extension from Hinton to Newport, La., six miles. He says that the contract has been awarded, and that rails and equipments have also been purchased. The extension will run through a good timber country, which is also suitable for farming, along the creeks and bayous.

Fort Myers Extension.

Mr. T. S. Tutwiler, assistant chief engineer of the Atlantic Coast Line Railroad Co., writes from Savannah, Ga., to the Manufacturers' Record saying that the line from Punta Gorda to Fort Myers, Fla., is to be known as the Fort Myers extension. It will pass through the flat woods in Florida, and will be twenty-eight miles long, mostly fill. There will be no cuts whatever. There will be one drawbridge across the Caloosahatchee river about six miles above Fort Myers.

Railroad Notes.

Mr. T. B. Thackston has removed from Spartanburg, S. C., to Chicago, Ill., where he will represent the land and industrial department of the Southern Railway Co.

The Northern Central Railway Co. reports for January gross earnings increase as compared with the corresponding month of last year \$119,400; expenses, increase, \$158,800; decrease, \$39,400.

A dispatch from Ashburn, Ga., reports that the Flint River & Gulf Railway is being actively constructed from that place to Sylvester, Camilla and Bainbridge, Ga. It is expected that the line will be completed as far as Sylvester within three months.

The Washington, Baltimore & Annapolis Electric Railway Co. has taken charge of the Annapolis, Washington & Baltimore Railroad, which it recently purchased. It will continue to be operated by steam until the electric railway is completed between Baltimore and Washington, when the Annapolis road will also be electrified.

Pell City (Ala.) Manufacturing Co. is rapidly completing its plant for manufacturing indigo denims, under construction for some time past. The enterprise has been referred to several times in these columns. This company is capitalized at \$500,000, and will begin operations soon, starting with 20,000 spindles and 640 looms, employing from 400 to 500 persons. Its mill building is 224x640 feet in size. G. W. Pratt is president; Arthur J. Draper, treasurer; A. E. Ledyard, secretary, and E. T. Garsed, superintendent.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Self-Ignition of Cotton.

Vessels laden with cotton are not infrequently reported as having fire aboard, and it is commonly assumed that it is caused by the self-ignition of cotton. However, experts have now come to consider that cotton, being of the same composition as wood, cannot of itself become ignitable. Recently one of the highest Prussian courts decided an important case of this nature by declaring that there is no such a thing as self-ignition of cotton. Regarding this United States Consul Henry W. Diederich of Bremen reports:

"A firm at Lodz in Russia had entered a suit against the Breslau-Warschau Railroad Co. for \$8500 damages for cotton lost by fire. It appears that a shipment of American cotton had been sent in different lots during the summer of 1898 from Bremen to the plaintiffs over the road of the defendants to the station Wilhelmbrueck in Silesia. The shipping agent there stored 365 bales outside the freight depot alongside of the railway track, and left them for some time exposed to all sorts of weather and accidents.

"On August 5, 1898, the bales burst into flames while a locomotive was doing some switching nearby. The plaintiffs claimed damages, resting the suit upon the assertion that the fire was caused by a spark from the locomotive, and therefore holding the railroad responsible. The defendants contended that the business of transportation had been completed the moment they had delivered the goods and the freight had been paid, and that they had nothing to do with the storing of the cotton thereafter. The entire responsibility for the damage, therefore, rested with the shipping agent, who represented the plaintiffs, and allowed the inflammable cotton to lie for months without any protection.

"As the question of self-ignition of the cotton entered largely into the case, experts from Bremen and Hamburg were asked to submit opinions. The Breslau court handed down a decision, the substance of which was as follows:

"Self-ignition of cotton is entirely out of the question, according to the universally-acknowledged opinion of men of science and men of experience. It is a peculiarity of cotton that it may conceal combustible matter within it for weeks and longer, as was seen in this very case, for several bales of cotton that were saved from the fire and lay in a pond for some time during the following winter suddenly burst into flames late in the following spring without any cause, as was proven by competent witnesses. Therefore, the plaintiffs themselves and their shipping agent were solely responsible for the damage done by this fire, not having taken proper steps for the protection of their property."

New Mills at Dillon, S. C.

In its issue of February 12 the Manufacturers' Record mentioned the incorporation of Maple Cotton Mills and Hamer Cotton Mills, both of Dillon, S. C., each with capital of \$100,000. Both enterprises were referred to as projected by William M. Hamer, secretary of the Dillon Cotton Mills, an established \$100,000 plant. The two new companies effected organization during the current week.

Maple Cotton Mills organized with William M. Hamer, president, and G. D.

Barlow, superintendent, and ordered plans and specifications, which are now being prepared. The main building will be a 77x300-foot structure, and 5000 spindles will be installed for manufacturing hosiery yarns. Steam-power will be used. Neither building or machinery contracts have been awarded.

Hamer Cotton Mills organized with R. P. Hamer, Sr., president, and William M. Hamer, treasurer. Messrs. R. P. Hamer, Sr., William M. Hamer, R. P. Hamer, Jr., G. R. Campbell, D. A. McCallum, J. S. Thompson, A. K. McCormick and Allen Edens were elected directors. Forty acres of land have been secured as a site for the enterprise. The details as to equipment of plant and character of product have not been decided. Further announcements will be made in the near future.

Highland Park Manufacturing Co.

In its issue of February 5 the Manufacturers' Record announced that the Highland Park Manufacturing Co. of Charlotte, N. C., had decided to build a No. 3 mill of 30,000 spindles and 1000 looms, costing about \$450,000. Contracts for the plant have been let during the past ten days, and on March 2 the active work of construction began. R. A. Brown of Concord, N. C., has contract for the brick work, and A. K. Lostin of Gastonia, N. C., for the wood work. It has also been decided that an electric plant will be built at a cost of \$100,000 to furnish power to this new mill, No. 3, and to the No. 1 plant of 13,500 spindles and 1200 looms. (Highland Park Mill No. 2 is located at Rock Hill, S. C.; it has 7500 spindles and 786 looms.) The power plant will have a capacity of 2000 horse-power. Plans and specifications for the mill show two main buildings, one 125x150 feet, one story high, and the other 125x425 feet, two stories high. It is expected that the plant will be completed and in operation by January, 1904. It will employ about 800 persons. Stuart W. Cramer of Charlotte is the engineer in charge of all the work. Gingham is the principal product of these mills.

Roanoke's \$30,000 Silk Mill.

In its issue of February 5 the Manufacturers' Record stated that Valentine Bliss of Scranton, Pa., had decided to establish a branch silk mill at Roanoke, Va., investing about \$30,000. A suitable building having been secured, a portion of the machinery has been installed, and ten operatives begun work this week. There are twelve throwing machines in position at present, but forty more have been ordered, and are expected to arrive before April 1. The mill will fill orders on commission. It receives the Chinese silk in the raw state as it is reeled from cocoons, and its machinery throws the same into skeins. These skeins are used principally in manufacturing dress trimmings. Italian and Japanese raw silk will be used later on.

Spindles in February.

There was more than the usual activity last month in announcements of increases to the spindleage of the Southern mills. Not for a year has such a month's record been made. As usual, the established companies of long experience lead in the activity. There were 135,500 spindles and 2500 looms definitely announced in February as to be installed. An investment of \$2,710,000 is indicated by equipment of that extent. Established companies are credited with 80,500 spindles and 1550 looms, making an investment of \$1,610,000. This leaves 55,000 spindles and 950 looms for the strictly new mills, an investment of \$1,100,000.

The Odell Improvements.

It was announced in these columns last September that the J. M. Odell Manufacturing Co. had decided upon making extensive improvements to its plant. These improvements were stated to include the rebuilding of its dam and raising same from a height of four to ten feet. During the present week John W. Hays of Petersburg, Va., was engaged to prepare plans and specifications for these water-power improvements. The company will also carry out its plan, as previously announced, to install 150 looms in order to manufacture its yarns into cloth. There are 6000 spindles in the mill. About \$52,000 is being expended for the additional machinery.

Its Third Silk Mill.

A dispatch from Fayetteville, N. C., states that the Ashley & Bailey Co. will build another silk mill in that city, making its third plant there. Site has been bought for the third mill. This company is now operating 15,000 spindles and 1200 looms at Fayetteville, the first plant having been established several years ago, and the second one last year. Only negroes are employed in the company's Southern mills. The company has large mills at Paterson, N. J., and in several Pennsylvania towns.

The Cotton Movement.

In his report for February 27 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 180 days of the season was 8,854,081 bales, an increase over the same period last year of 115,822. The exports were 5,066,531 bales, a decrease of 36,445; takings by Northern spinners, 1,619,955 bales, a decrease of 10,178; by Southern spinners, 1,203,064 bales, an increase of 129,766 bales.

Textile Notes.

Dallas (N. C.) Cotton Mills contemplates building a No. 2 plant. It now has 5216 spindles and 116 looms.

Commercial Club, Jackson, Tenn., has completed arrangements for the location of a knitting mill. Details are now being considered.

The report that the Clinton (S. C.) Cottonseed-Oil Mills' stockholders will build 4000-spindle cotton mill, referred to last week, was not correct.

Lowell (N. C.) Cotton Mills has declared a semi-annual dividend of 3 per cent. Some minor improvements have been made recently at the plant.

It is reported that Rhodiss Manufacturing Co., Granite Falls, N. C., will double its equipment, now 6000 spindles. No authoritative statement as to this enlargement has been made.

Avon Mills, Gastonia, N. C., was damaged to the extent of about \$5000 by a wind storm on February 28. Both buildings and machinery will be repaired and replaced at once wherever necessary. The company has 10,080 spindles and 300 looms.

Gonzales (Texas) Cotton Mills has not finally decided upon adding the 7000 spindles and 210 looms, reported recently. The company may add 15,000 spindles and looms to suit. An announcement will be made if definite action is taken on the proposition.

Messrs. A. M. Hatcher & Co. of Houston, Texas, have made a proposition for the establishment of a \$300,000 cotton factory at Greenville, Texas. They are making similar offer to a number of Texas towns, and have succeeded in locating two large mills. Particulars for these two

mills have been previously given in these columns.

Messrs. A. A. Shuford, G. H. Geitner, George F. Ivery and others of Hickory, N. C., will build a cotton factory. They will organize stock company capitalized at \$75,000 or \$100,000. The details are now being considered, and full particulars will be announced in the near future.

Chesterfield Manufacturing Co., reported last week, proposes making improvements to the plant it has acquired at Petersburg, Va. There are 5000 spindles and 150 looms in position now, which number will be increased later on. The water-power and plant generally will be improved. J. F. Taylor is president. He is treasurer of Kingston Cotton Mills, Kingston, N. C.

York Cotton Mills, Yorkville, S. C., has completed the erection of an additional building for its plant. Machinery for combing cotton will be installed, and this will enable the company to manufacture a finer grade of yarn than it is at present producing. The new machinery will be ordered and put in position during the next sixty days. There are 20,264 spindles in the mill.

C. C. Cunningham's proposition for the establishment of a cotton factory at McKinney, Texas, referred to last week, is under consideration by the business men of McKinney. The proposition involves the investment of \$300,000 and the equipment of plant with 10,000 spindles and 244 looms for manufacturing print cloth. Mr. Cunningham is of Houston, Texas; address, Box 759.

It is rumored that the Messrs. Duke (B. N. Duke and associates) of Durham, N. C., and Messrs. Odell (J. M. Odell and associates) of Concord, N. C., will establish a million-dollar cotton mill on the Catawba river near Hickory, N. C. The enterprise is said to include plans for the development of from 6000 to 10,000 horsepower from the river for transmission to operate other industries besides the mill projected.

Messrs. John B. Cleveland, J. F. Cleveland, J. N. Cudd, A. N. Wood, T. E. Moore and others of Spartanburg, S. C., have incorporated the Electric Manufacturing & Power Co., with capital stock of \$100,000 and privilege of increasing to \$3,000,000. Their charter authorizes the construction of dams, power-houses, electric plants, cotton mills, etc., and it is rumored an extensive cotton-factory enterprise is contemplated by the company, but plans are not sufficiently matured to permit of any definite announcement as yet. A number of the incorporators are managing officers of large mills in the Spartanburg district.

QUOTATIONS OF COTTON YARNS.

By Buckingham, Paulson & Co., New York, Philadelphia and Chicago, March 3.

No. 10s-1 and 12s-1 warps.....	15 1/2 @ 16
No. 14s-1 warps.....	16 @
No. 16s-1 warps.....	16 1/2 @
No. 20s-1 warps.....	17 1/2 @ 18
No. 22s-1 warps.....	18 1/2 @
No. 26s-1 warps.....	19 @
No. 6s to 10s yarn.....	14 1/2 @ 15
No. 12s-1.....	15 1/2 @
No. 14s-1.....	16 @
No. 16s-1.....	16 1/2 @
No. 20s-1.....	17 1/2 @
No. 22s-1.....	18 @
No. 26s-1.....	19 @
No. 8s-2 ply soft yarn.....	15 1/2 @
No. 10s-2 ply soft yarn.....	16 1/2 @
No. 8s-2 ply hard.....	15 @ 15 1/2
No. 10s-2 ply hard.....	15 1/2 @ 16
No. 12s-2 ply hard.....	16 @
No. 14s-2 ply.....	16 1/2 @
No. 16s-2 ply.....	16 1/2 @
No. 20s-2 ply.....	18 @
No. 24s-2 ply.....	20 @
No. 26s-2 ply.....	20 1/2 @ 21
No. 30s-2 ply yarn.....	22 @
No. 40s-2 ply.....	26 @
No. 8s-3, 4 and 5 ply.....	15 @ 15 1/2
No. 30s-2 ply chain warps.....	18 1/2 @
No. 24s-2 ply chain warps.....	20 1/2 @ 21
No. 26s-2 ply chain warps.....	21 @ 21 1/2
No. 30s-2 ply chain warps.....	22 @ 22 1/2
No. 16s-3 ply hard twist.....	16 1/2 @
No. 20s-3 ply hard twist.....	18 @
No. 26s-3 ply hard twist.....	20 1/2 @

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record, Baltimore, Md., March 4.

The lumber market has ruled fairly active during the past week in many departments of the industry, and the indications are fair for a better demand under more settled weather. Receipts of North Carolina pine continue light, due to the bad condition of roads in milling sections. There is a good demand, however, from local dealers and from out-of-town buyers, and stocks are generally light. The tone of the market for North Carolina pine is very steady, and the situation is regarded as satisfactory. In some other woods on the local market the movement has been easy at the moment, but prices are generally steady. Cypress is holding its own, and there is a better inquiry for building purposes. White pine is in moderate supply, and the market firm. Poplar is still in good demand, and prices steady, with keen competition among buyers at the mills. In hardwoods the market is strong for oak and ash. Western quartered oak is firm at \$70 to \$75, and plain sawed stocks, firsts and seconds, are selling up to \$40 per thousand feet. Foreign exporters are not actively engaged; in fact, the foreign market for hardwoods shows but little improvement. The annual convention of the National Wholesale Lumber Dealers' Association began at the Willard Hotel, Washington, on Tuesday. The general meeting opened today, and it is expected that fourteen Baltimore firms will be represented. Among the principal subjects to be discussed at the meeting is that of the rapid destruction of the forests and the scientific remedy for the same. The government is greatly interested in the matter, and practical lumbermen are supporting the methods advanced by the bureau of forestry.

Savannah.

[From our own Correspondent.] Savannah, Ga., March 2.

A fairly active movement in wood products was in order last week from this section, and both the coastwise and foreign business was of fair volume. The local lumber market is very firm in tone for all desirable grades, and prices generally show no signs of weakness in any direction. The movement to the interior is better, and for coastwise business shippers have all the business they can take care of. The members of the Georgia Saw-Mill Association and of the Southern Lumbermen's Association that waited upon the railroad freight officials in Atlanta last week returned in doubt as to the success of their mission. It was announced on Saturday, however, that the advance in rates on yellow pine from Southern districts to Ohio river crossings which was to have become effective March 1 had been indefinitely postponed. The news is encouraging, and is an evidence that Southern railroads are willing to give lumbermen every showing possible. The coastwise shipments of lumber last week from this port aggregated 3,710,470 feet, distributed as follows: 1,726,865 feet to Baltimore, 716,095 feet to Philadelphia and 666,610 feet to New York. Freight rates continue steady, with rates to New York at \$5.50 to \$5.75 for lumber and 16 to 16 1/2 cents for ties. The following foreign clearances were reported last week: Schooner H. B. Hoeman for Louisburg with 238,506 feet of lumber, steamship Neidenfels for Ham-

burg with 33,365 feet, and the steamship Amelia for Barcelona with 15,408 feet.

Brunswick.

[From our own Correspondent.] Brunswick, Ga., March 2.

The outward movement of lumber for the month of February was one of the largest in the port's history. Possibly the cross-tie feature was the most pronounced, for the shipments were many and large, cargoes being shipped by A. Emanuel & Co., F. D. Aiken, James Broadhead, McDonough, Brown & Co., and mixed shipments by others. Shipments to Boston by the Clyde Line steamers last week amounted to 180,046 feet. The foreign exports were large, in face of adverse market conditions existing in American lumber on the Continent, amounting to a total of 4,400,000 feet. The foreign demand from Spanish-speaking countries continues to show an increase, and orders are reported now as being about closed, amounting to fully 10,000,000 feet. The demand for piling from Eastern and South American markets is now active, three shipments recently being made, and the schooner Hope Sherwood now loading 500 pieces for New York. Various stocks now at mills and docks at this port are estimated at 19,000,000 feet. Reports indicate steadiness in market quotations and favorable adhering to list prices. Majority of lumbermen and others in touch with their interests state that no advance is anticipated in prices, and that market is sure to be steady and healthy the balance of the year. Freight rates to the East are now quoted from Brunswick to New York with lumber at \$5.37 1/2 and ties at 16 cents as a South Atlantic basis. Recent charters show schooner Arthur C. Wade, 672 tons, to New York with lumber at \$5.50, cross-ties at 17 1/2 cents, and schooner Blanche King to New York, ties at 17 cents.

Jacksonville.

[From our own Correspondent.] Jacksonville, Fla., March 2.

The first two months of the present year have developed unusual activity in the lumber industry of Florida, and indications point to a most promising year among lumbermen. At the moment there is a most pronounced demand from Northern and Eastern sources, and also from West India ports. The various mills in operation have all the business they can manage, and at adjacent points there is a similar rush of business. The shipments by rail have been very heavy recently, and while water shipments are increasing steadily, Jacksonville's advantages will be further facilitated by the deepening of the river channel and the work on the St. John's bar. The lumbermen of Jacksonville look forward to a most active period during the next decade, warranted by the unusual development of valuable timber properties, millions of acres changing hands yearly. At the moment new lumber companies established at this port show a remarkable increase in number over those existing a year ago. The receipts and shipments of lumber show a corresponding increase, and water shipments are growing greater each year. The business by water for the month of February, 1903, aggregated in shipments 13,731,592 feet of lumber, against 11,035,033 for February, 1902, showing an increase of 2,696,559 feet. The coastwise steamers carried during February 8,195,000 feet of lumber, 65,000 cross-ties, 19,540 packages of naval stores and 34,000 bundles of shingles. The sailing vessels clearing from the port carried 4,370,800 feet of lumber, and to foreign ports 1,165,792 feet of lumber were shipped. The tone of the lumber market at the close of the

market on Saturday was firm, with kiln-dried lumber mostly in demand. Stocks, however, continue light, owing to the rush of orders for prompt and nearby shipment. Yellow pine for shipment is quoted at \$16 for all heart, \$12 for No. 2 and \$10 for No. 3. Prime cypress is quoted at \$30 for prime; seconds, \$20 to \$28; cypress shingles, \$3.50 per 1000 for No. 1 and \$2.50 for No. 2. The Clyde Line steamers are enjoying a most successful season, every steamer for New York and Boston carrying its full complement of lumber, crossties and other wood products. Freight on lumber continues steady for rates to Northern and Eastern ports. Last charters reported are as follows: British schooner Strathcona from Jacksonville to Bermuda with lumber at \$7; schooner Grace Davis, 352 tons, from Jacksonville to New York with kiln-dried lumber at \$5.75; schooner Edith Olcott, 1146 tons, from Fernandina to New York with crossties on private terms; schooner E. L. Davenport, 470 tons, from Fernandina to Philadelphia with lumber at \$5.37½, and schooner Rebecca A. Taulane from Jacksonville to Portland with lumber at \$6.62½.

Mobile.

[From our own Correspondent.]

Mobile, Ala., March 2.

Business in both timber and lumber at this port has shown a fairly active tone during the past week, while prices continue very steady, especially in timber, which, it is predicted, will show an advance in the near future. Sawed timber is now quoted at 17½ to 18 cents per cubic foot, and desirable stock, 30 cubic feet and up, is selling even higher. The fact that the upper rivers are swollen to mammoth proportions gives light receipts, while stocks are being absorbed by foreign vessels. The outward movement in lumber is heavy, and the market firm for desirable stock. There is a brisk demand for prime lumber from the usual sources. Business with Cuba and Mexico continues active, and it is stated that the fleet of vessels now loading at Gulf ports for Cuba is the largest in the history of the trade. Stocks of logs are not large, and prices are holding firm for all descriptions. Pine, oak and poplar logs are worth \$8 to \$12 per 1000 superficial feet, ash \$6 per thousand and cypress 7 to 12 cents per cubic foot. It is stated here on good authority that the Sobinas de Herrero Steamship Co., with a large number of vessels in the trade between American and Cuban and South American ports, will establish a branch here, and will run ships regularly from this port. A representative of the company was here last week for several days looking into the facilities of the port and its prospects. The clearances of lumber last week are reported as follows: German steamship Hilda Horn for Hamburg, 750,000 superficial feet pine lumber, 20,625 cubic feet pine timber; American steamship Comal for New York, 150,000 feet pine lumber; British steamship Aldershot for Havre, 180,504 superficial feet pine timber for London, 1,225,908 superficial feet pine timber, 6876 superficial feet deals; British steamship Verax for Bremen, 278,240 superficial feet pine timber, 18,917 cubic feet pine timber; British steamship Belfast for Liverpool, 15,009 cubic feet hewn oak timber, 5729 cubic feet hewn poplar timber, 122 cubic feet hewn elm timber, 2600 cubic feet hickory logs, 10,610 cubic feet hewn ash logs, 76,400 superficial feet poplar lumber, 7600 oak staves. The bark Strathcona cleared for Havana with 212,216 feet of lumber. The total clearances for the season aggregates 39,877,667 feet of lumber, against 46,020,092 last season. The freight market continues unchanged, and from the number of charters reported weekly con-

siderable business is in sight for the current month. Among the charters reported this week are the Dutch steamer Heemse, 1046 tons, from Mobile to Grangemouth with timber at \$2/6, March; ship Kennebec, 1336 tons, from Pensacola to Rio Janeiro with lumber at \$10, and British steamer Ripplingham, 1649 tons, from the Gulf to United Kingdom with timber on private terms, March-April.

Memphis.

[From our own Correspondent.]

Memphis, Tenn., March 2.

The most important development of the past week was the announcement that the handlers of export lumber had decided to make use of the river for transporting their lumber to New Orleans for exportation to Europe, instead of depending on the railroads, which have been notoriously slow during the past few months for the removal of this lumber. Already D. A. Fisher, a prominent insurance man, has been called upon to place marine insurance on 1,000,000 feet of export lumber in barges between Memphis and New Orleans. Commenting on the matter E. T. Bennett of the Bennett Hardwood Lumber Co. said to the Manufacturers' Record's correspondent: "Yes, we, the wholesale exporters of lumber to Europe, are looking into the question of using barges. There are hundreds of carloads of lumber in the Memphis yards already booked for Europe, and, while this lumber is already sold, we are not able to get the cars from the railroads for the shipment of it. We will probably use barges to get it to New Orleans. One barge will hold 300,000 to 400,000 feet of lumber, or the equivalent of about twenty cars. The ordinary car holds 15,000 feet of lumber." Other exporters declared that the barge system would be adopted, because it presented the only solution for the early moving of lumber. It will take a longer time in transit by water than it would by rail, but it will get started so much sooner that it will reach its destination much earlier than it would if it waited for the railroads to clear up the congestion now existing between here and New Orleans. On the Memphis division of the Yazoo & Mississippi Valley road there were 1600 cars loaded for shipment through to the North and East at the close of the past week, and still the cars are coming up rapidly from below here. This is the worst condition the Yazoo & Mississippi Valley line has been in this year, and there is absolutely nothing on which to base the hope of early improvement. There are something like 35,000 cars of lumber handled out of Memphis every year, and the disposition of the lumbermen to use the river would be a serious blow to the railroads. The demand for lumber of every kind here throughout the past week continued active, with a movement fully as large as the limited offerings of dry stocks would allow. The weather was more favorable than during the preceding week, and production was slightly larger than during that period, but there was a still further decrease in the offerings of dry stocks because of the shipments made in excess of the stock dried and made ready to take the place of the stuff sent out. Prices have ruled firm, being slightly higher as a rule. One of the largest firms here has just gotten out a new price-list, from which a few values are taken as showing the level of prices current in this center. The booking of orders for future delivery continues one of the features of the hardwood lumber business just now, though it may be stated that the continuation of such unfavorable weather conditions is causing a considerable degree of conservatism on the part of manufacturers in the matter of assuming large obligations. The outlook for an adequate

timber supply is not at all good, and the stocks of stuff on sticks is now not large enough to warrant making deliveries for long terms.

Lumber Notes.

The shipments of lumber from the port of Jacksonville, Fla., for the month of February amounted to 13,731,592 feet, against 11,035,033 feet for February, 1902, an increase of 2,696,559 feet.

The large new planing mill and novelty works of the Douglass Manufacturing Co. of Douglass, Ga., started up last week. The company turns out all styles of wood-work, and has orders for months ahead.

A charter has been granted to the Haynes Furniture Co. of Franklin county, Tennessee, with a capital stock of \$15,000. The incorporators are J. C. Haynes, Jr., A. J. Barnes, W. W. Tucker and Floyd Estill.

The towboat Russell Lord of the Ayr-Lord fleet came out of the Tennessee river last week with a tow of 75,000 crossties. This is the largest consignment of crossties ever brought to Paducah, Ky., by any one steamer.

The Cassatot Lumber Co. of Little Rock, Ark., has been chartered, with a capital stock of \$100,000. H. C. Williamson is president; H. L. Howard, vice-president; J. F. Crawford, secretary, and A. Roath, treasurer.

The exports of lumber from the port of Mobile last week aggregated 1,504,732 feet, and for the season 39,877,667 feet, against 46,020,092 feet last season. The shipments of sawn timber last week aggregated 157,543 cubic feet.

Among the shipments of lumber from the port of Charleston, S. C., last week were the steamship S. T. Morgan for Philadelphia with 1,400,000 feet. The steamship Apache cleared with 48,912 feet among her cargo for New York.

The Royal Handle Manufacturing Co. of Harrisburg, Ark., has been incorporated, with a capital stock of \$10,000, for the manufacture of handles, etc. Thos. B. Steel is president; M. D. Simmons, vice-president, and S. A. Bower, secretary.

The Powell Furniture Co. of Norfolk, Va., has been chartered, with a capital stock of \$3000 to \$5000. The officers of the company are J. P. Powell, president and manager; W. T. Gilchrist, vice-president; R. L. Powell, secretary and treasurer.

The John E. Quarles Lumber Co. of Fort Worth, Texas, has been chartered, with a capital stock of \$40,000. The incorporators are J. C. Conway of Dallas, Robert Craig of Cleburne, M. W. Hawkins of Midlothian, John E. Quarles and H. W. Leper of Fort Worth.

The retail lumbermen of Mississippi and Louisiana have perfected an organization for mutual interest and protection. The organization will hereafter be known as the Mississippi and Louisiana Retail Lumber Dealers' Association. Mr. W. T. Harlow of Yazoo City will be the secretary of the new association.

At Ocala, Fla., last week M. W. Goethe & Co. of Collins, Ga., purchased 10,000 acres of timber land from N. W. Ellis for \$20,000. Another sale is reported of 10,000 acres by W. W. Ullman to Peterson & Pounds for the same consideration. The turpentine and timber industry in the Ocala section at present is remarkably active.

The lumbermen of Memphis, Tenn., have determined to begin shipping their finished product to New Orleans by means of barges on account of the freight congestion. A local insurance agent last week was asked to place marine insurance on three barges with over a million feet

of lumber consigned to New Orleans for export.

The Ouachita Lumber Co. of Azenaw, Ark., was incorporated last week, with a capital stock of \$40,000. The company will manufacture and sell lumber and timber and handle real estate. The officers of the company are Luther Creason, president; J. T. Sifford, vice-president; J. L. Whitehurst, secretary, and D. W. Chandler, treasurer.

It is stated that Mr. C. R. Sharill of Paducah, Ky., an extensive lumberman, who has been on a trip down the Gulf & Ship Island Railroad, has made contracts with a large number of mills along that line of railroad for their entire output of lumber. From March 1 until June 1 Mr. Sharill expects to ship 300 carloads of lumber a month to the North.

The Scotland Mills Co., with headquarters in Jacksonville, Fla., has been chartered, with a capital stock of \$50,000. The company proposes to buy, sell and handle for its own account or on commission timber, lumber and all kinds of saw-mill products, etc. The incorporators of the company are B. R. Powell, P. L. Sutherland, Mary E. Strawn and Arthur F. Pungan.

C. C. Mengel, Jr., & Bro. Co. of Louisville announce that within the next few months they will import through Pensacola 8,000,000 feet of mahogany logs, the first cargo of which is now here. The mahogany is coming from Honduras, and 250,000 feet of logs is considered a good cargo for a vessel. The product will be shipped to the company's box factory at Louisville. Several vessels are now en route there.

The door, sash, blind and building material business of the late Mr. John R. Neely of Norfolk has been acquired by a stock company which was chartered last week. The new company will be known as the Hawks-Maupin Company, and will begin business with a capital of \$15,000. The officers of the company are Judge L. R. Watts, president; Mr. E. W. Maupin, Jr., treasurer, and E. B. Hawks, secretary.

It is stated that M. W. Conway of New York city, while in Jacksonville, Fla., recently, purchased 2,000,000 crossties from dealers in that city. These ties are to be used in the construction of an electric railroad from Catskill to Oakhill in the Catskill mountains, New York, which is to be completed by July 1 next. Mr. Conway pronounces the yellow-pine heart crossties of Florida well adapted for his purposes.

Mr. W. V. Shepardson, the representative of the C. C. Mengel, Jr., & Bro. Co. in Central America, returned last week to confer with his company at Louisville, Ky. The Mengel mahogany interests in Central America are large, and the Louisville firm is well up in the list of American lumber concerns in the tropics. The firm has its own line of log-carrying steamers to Honduras, as well as to the west coast of Africa, and Louisville is among the most important mahogany-cutting points.

A meeting of the Chattanooga Furniture Manufacturers' Association of Chattanooga, Tenn., was held in that city last week. The meeting was mainly to audit the accounts of the association, and although several plans for improvement were discussed, no final action was taken on any subject. The reports from manufacturers indicated that business is steadily increasing. The salesmen of the association are doing good work, and Chattanooga-made goods are being sold in every State in the Union east of the Mississippi river, and in a majority of the Western States.

MECHANICAL.

A New Angle Power Transmitter.

Power-users will be interested in the accompanying illustrations of a new angle power transmitter.

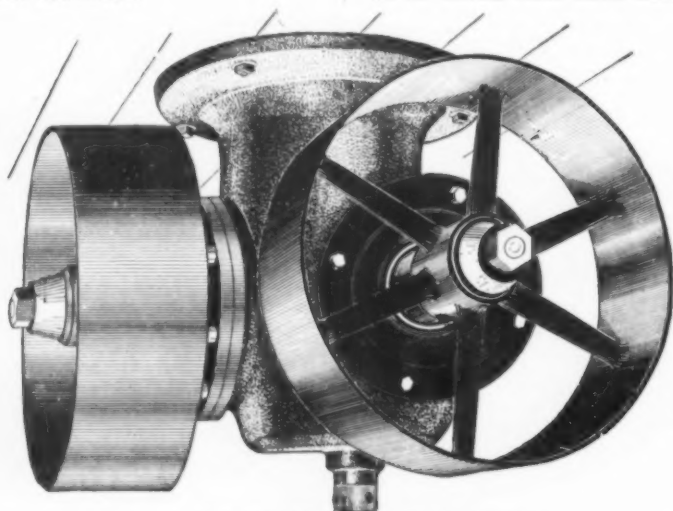


FIG. 1-NEW ANGLE POWER TRANSMITTER.

This is virtually an angle coupling, or a means for turning a corner with shafting. It often happens that power-driven machines are desired to face the light, so that after locating them along by the windows in the side wall, they may be arranged also along the end walls and driven by shafting parallel to the walls. Here two portions of shafting are required, one at right angles to the other.

In this new device is found a most excellent arrangement for coupling the shafts at the corner turn, one which is free from annoyance, is durable and inexpensive to maintain.

Heretofore two ways of turning the corner with the shafting have been common, by bevel gearing or by mule pulley stand. The difficulties which their use entail are well known.

The right-angle shafting has been very likely to be avoided altogether, and the machines at the end of the room located in inconvenient positions as a result, as well as the long belts being introduced at an undue expense to distribute the power.

But in this angle power transmitter is found a means of turning the corner with the shafting. It may be employed for transmitting power from one shaft to another at right angles to it, whatever the relative positions of these shafts, whether in the middle or at the sides of the room, one above the other by whatever distance, one vertical and the other horizontal, etc.

So far the right angle has been understood, but the transmitter may be made for any angle, though it is not kept in stock for other than the right angle, since it is very rare that it is desired for other angles.

The mechanism of this angle power transmitter consists of the "Linkwork" variety, which form is well known to be most quiet in action. Not only is this true, but it is the easiest working, consequently the most efficient of all mechanism; that is, the least amount of work is lost in friction, and in this respect it is far superior to the other methods of turning the angle.

Figs. 2 and 3 plainly show the casing and all the working parts. The main shafts extend from the outside where the hub-sleeve is attached, through the main bearings to where the main cranks are mounted upon their inside ends. A bell crank is fitted to turn and also to slide up and down on a main central rod, and between the arms of the bell crank and crank-pins are fitted knuckle pieces, which slide and turn on the crank-pins, and also

turn on pins in the bell-crank arms. The motion of the transmitter is peculiar. The knuckle pieces connecting between the crank-pins and bell crank serve in the same sense as connecting rods of infinite length.

As the driving crank starts from the

transmitter, before being sent out, is tested by being run for several hours, until all parts are brought to a smooth and easy turning.

The machinery is all contained inside an oil-tight case, and in practice a quantity of lubricating oil is put inside.

A hand-hole is made upon the side opposite the pulleys, as shown in Fig. 2, through which the interior may be examined at any time. An oil hole and funnel is placed upon the case, through which oil for lubrication may be introduced into the interior, where several pints may be applied at one time to serve for several months, the quantity at any time being shown by a glass indicator tube. It is advisable to maintain a copious supply of oil within, that it may not get thick or gummy.

The motion of the crank shown in Figs. 2 and 3, including the central bell-crank piece, as they drop into the oil throw the latter to all parts at all times. The bell crank slides up and down on the central rod shown as far as the crank diameter, thus working the oil through the whole length of the sliding action upon the main central rod.

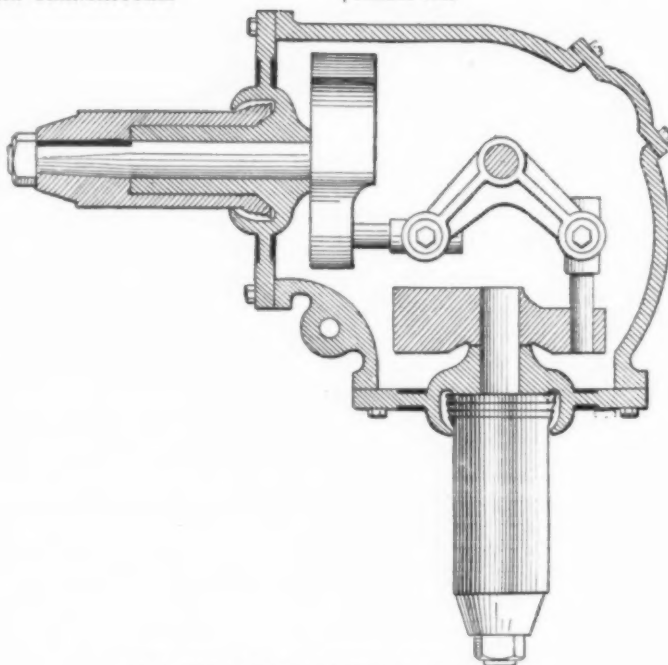


FIG. 2-NEW ANGLE POWER TRANSMITTER.

position shown, the bell crank sliding on the vertical central rod starts to slide up, which causes the driven crank-pin to move up. Soon, on account of the arc motion of the driving crank, the bell crank is made to turn on its central rod as well as to slide, which sliding and turning, due to the driving crank, causes the driven crank-pin to move in exactly a like arc movement compatible with it. At the position, 90 degrees from the starting, the bell crank will be at its highest position, and will simply rotate for an instant on its central rod. This causes a turning of the driven crank exactly like that of the driving crank. From this point on for the next 90 degrees the movements of the first 90 degrees will be exactly duplicated in the inverse order, and so on for the entire revolution and in repetition. It is thus seen that the movements of the driving crank are exactly duplicated in the driven, and that consequently the "velocity ratio" of the transmitter shafts is constant, or that the velocity of the driven shafting is steady, or like that of the driving shaft, and all parts are carefully counterbalanced.

The crankshaft and crank-pins of this transmitter are made of high-grade steel for securing greater strength and durability. The main central rod is of mild steel, case-hardened and ground. Each

other holes at a considerable distance below back into the main casing, so that by a pressure the oil is caused to flow the whole length of the main bearings. This interior funnel receives oil from the splash direct, as well as catching it as it runs down along the inner wall of the case. The crank-pins slide and rotate in the knuckle pieces, and also dip into the body of oil within the case at each rotation, so that lubrication is assured on these parts. Thus it is seen that the whole mechanism of the transmitter is thoroughly lubricated continually, so that the affair is self cared for in the main.

Fig. 1 shows the transmitter complete. It is secured firmly to the ceiling within good belting distance of the point of intersection of the two shafts to be connected, and it matters not whether its center is somewhat higher or lower than the shafts, or whether the latter are both on the same level. A pulley is secured on each shaft opposite those on the transmitter hub-sleeve, and connected by belts. Then the driving shaft drives the transmitter, and the latter drives the driven shaft, when all work in harmony and with satisfaction. The driven shaft may be run faster or slower than the others, as depends only on the relative sizes of the pulleys placed upon the shafts. Usually the pulley on the driving shafts is about the same size as that on the transmitter, though of such size as not to drive the transmitter in excess of its maximum speed.

This transmitter should be screwed firmly to the ceiling timbers, and it may be necessary to bolt two-inch planks by lag screws to the ceiling joists, several of them. In this the transmitter may be higher or lower than the shafts to be connected, so that dressing of the planks for a seat may be done or "shims" may be introduced to bring the transmitter to the proper position.

The transmitter may be introduced at the corner of the room near the ends of both shafts, or near the center of the room where one shaft passes on beyond. If, however, one shaft is above another by the sum of their radii or more, both shafts may pass each other indefinitely.

Theoretically, to avoid the belts, this transmitter can be connected directly to the ends of the driving and driven shafts as by extending the ends of the shafts

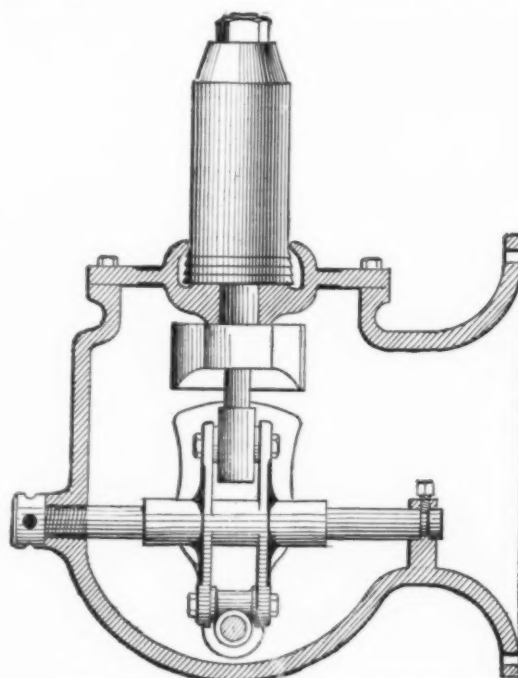


FIG. 3-NEW ANGLE POWER TRANSMITTER.

Grooves are cut in the main bearing, to which holes carry oil from an oil funnel, and from which the oil returns through into the transmitter case and mounting the cranks upon them, or common couplings may connect the ends of the shafts

with the shafts of the transmitter, but in this great care is necessary to secure the alignment required for satisfactory action, as a small error in the angle between the two shafts would cause cramping of the transmitter, friction and heating. If such connection with the shafts is desired, which would avoid the belting and pulleys, couplings between the shafts and transmitter should be employed which admit of a little flexibility, as in the case of common flange couplings with the bolts left loose.

The new angle power transmitter is manufactured by the A. Standish Estate of Columbus, Ohio.

Hercules Steel-Faced Pulley.

The construction of the Hercules steel-faced pulley, made by the Smith Stamp-

facturing of machine tools has been among the most prominent advances in the machinery world. One of the latest introductions in the machine-tool line is the new lathe manufactured by the Miami Valley Machine Tool Co. of Dayton, Ohio. This 13½-inch lathe is shown by the accompanying illustration.

No novel features have been introduced in the design, the main considerations having been to produce a lathe with parts of ample proportions, convenient to operate and durable and accurate in construction. The spindle is of high-grade steel, with ground journals and phosphor-bronze boxes; the cross feed is graduated; the chasing stop is always with the lathe, and it is impossible to throw in rod and screw feeds at the same time. The feed cone is provided with a swinging tightener. The

inches diameter, 3¾ inches long; the rear bearing of spindle, 1½ inches diameter and 3 inches long, and the hole through the spindle 1 1-16 inch. The diameters of the head cone pulley are 3½, 5, 6½ and 8 inches, and the ratio of the back gearing is 9.1 to 1. The lathe cuts threads 4 to 64, including 11½.

J. D. Mallory is the company's Baltimore agent.

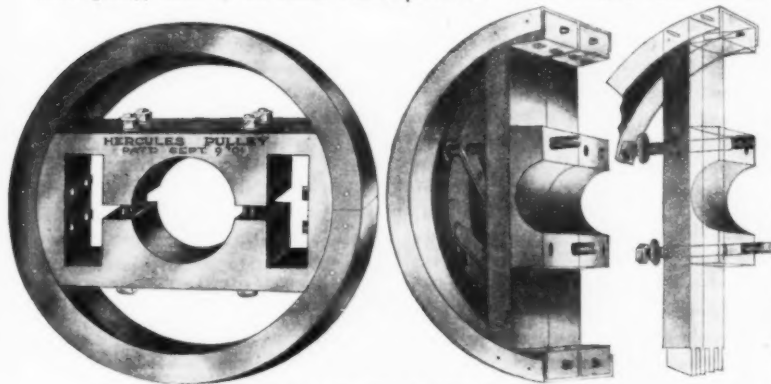
The National Engine.

Improved engines always constitute an interesting subject to power-users. It is because of this fact that attention is called to the National engine here illustrated. Its main features are design on strictly mechanical lines, highest class of material and workmanship and ample proportion, thereby insuring an almost uniform life and greatest possible durability. It is claimed this engine has the greatest possible uniformity of speed attained in any single-cylinder engine here or abroad, rivaling in this the best and exceeding many multiple cylinder engines. This is attained by an unexcelled sensitive gov-

sizes of 3, 6, 10, 12 and 15 horse-power, and a 20 and 25 horse-power model will be on the market soon. They are built by the National Engine Co., Rockport, Ill. Write for further details.

Spirits Turpentine.

The price of this well-known and most useful product is steadily advancing, and the prospects are that its price will never be lower than that which a few years ago was considered high. The price at which the long-leaf pine forests of the South are now held makes it impossible for a man of small means to secure a location for the manufacture of turpentine and rosin. The usual method of extracting the gum by boxing the tree is considered by mill-men damaging to the forests, for the reason that the box weakens the tree so that the wind can blow it down easily, and if fire should unfortunately get into the woods the tree will burn at the box on account of the turpentine to such an extent as to cause the tree to die, and hence the lumber interests suffer. The new process which has proven so success-



HERCULES STEEL-FACED PULLEY.

ings Factory of the Federal Manufacturing Co. at Milwaukee, is shown in the accompanying illustrations.

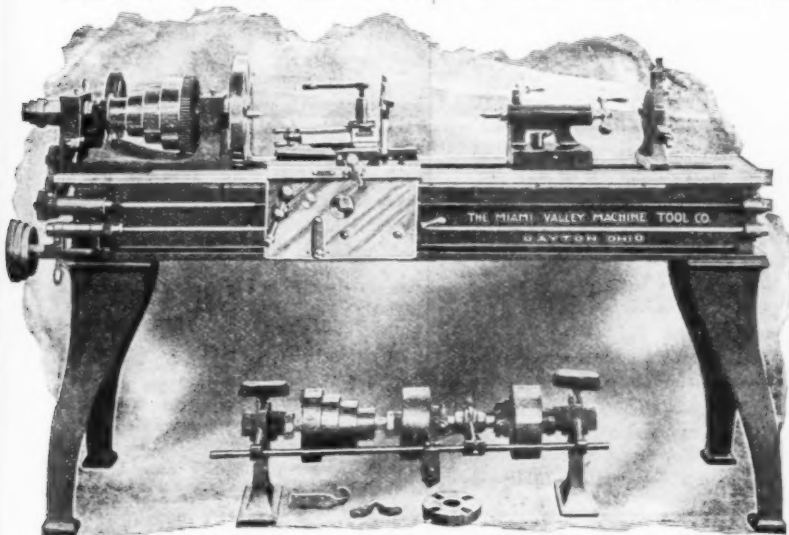
This pulley is constructed with a steel face and a wood center. The rim is formed from cold-rolled sheet steel. The arms are made of seasoned maple. The wood is soaked in hot linseed oil to prevent its warping, and then coated with waterproof paint. The rim is securely fastened to the center by bolts through the face and by rivets of special construction through the flanges. It is claimed the surface of this pulley will not pit or accumulate oil and dust like a wood pulley. It has the best possible face for a maximum load with a loose belt. The pulley is very strong and light. It is made in diameters from six to twenty-four inches, and in faces from three to twelve inches, both straight and crown face.

A New 13½-Inch Lathe.

In all avenues of industrial activity the keynote is improvement. This has been

centers are large, with no bushing in the spindle, but a safety plug is provided to avoid accident when the center is removed. The tailstock is of the overhanging style, with set-over. The feeds in head and apron are reversible. The head and tail stocks are fitted to the bed with a V at the rear and flat bearing in front, permitting the cross-bridge of carriage to be heavy and rigid. Besides the belt and rod feed, a positive feed can be obtained by engaging gear on lead screw to the feed rod. The carriage is provided with lock screw. It has V bearing in front and flat bearing in rear, and is gibbed. All sliding bearings on the Vs are fitted to completely cover them and avoid wearing a ridge in them. The power cross feed is thrown in and out by moving a button. The countershaft has double friction pulleys, simple in construction and easy of adjustment. Care has been taken to insure perfect facilities for oiling all bearings, especially in the apron. The compound rest is graduated in degrees.

The feed belt has swing tightener, the



A NEW 13½-INCH LATHE.

forcibly noticed in the betterment of machinery of all kinds during recent years. The advance in the designing and manu-

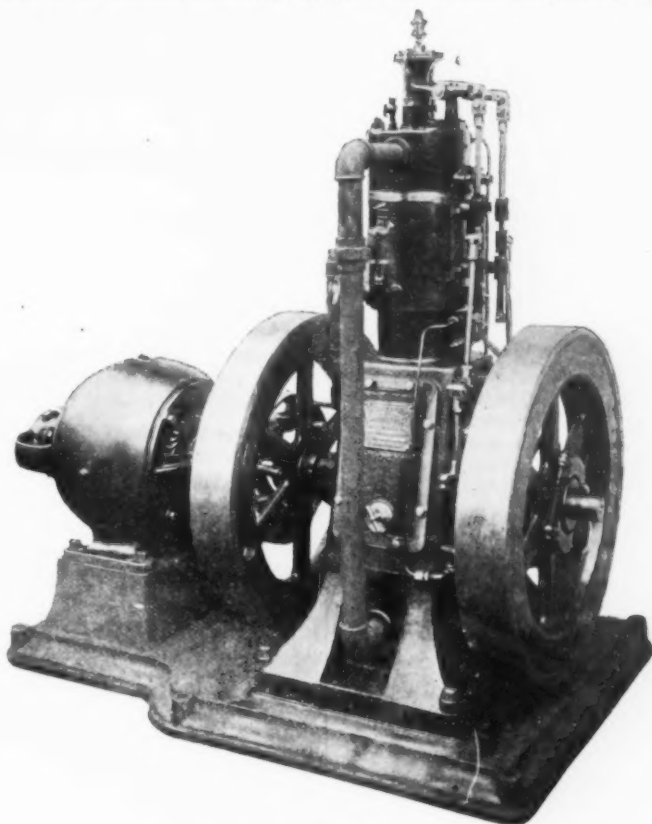
test limit on the spindle is .001 inch, using 12-inch test bar and the "Bath" indicator. The front bearing of the spindle is 2

error, application of unusually heavy fly-wheels, excellent general proportions of engine and perfect balancing of all moving parts, and by the regularity of action of fuel-feeding device. Another valuable feature is the adjustment that makes it possible to run the engine on the hit and miss or throttling principle without changing a single part, etc. These engines are almost exclusively and most successfully used for electric-lighting plants, or all such purposes where the utmost uniformity of speed is required. They do not stop under a considerable overload, but only run proportionately slower when their capacity—which is much larger than the nominal horse-power for which they are sold—is exceeded, because the amount of fuel injected for each working stroke is the same, no matter if engine runs or runs not up to speed; in fact, these engines are directly designed for isolated lighting plants for country houses, residences, etc., and are also very useful for private or public charging stations for electric automobiles.

These engines are furnished to be connected to generator by belt or direct connected. The National engine is built in

ful in the experiments at Ocilla, Ga., by Dr. Charles H. Herty of the government bureau of forestry will serve in some degree to diminish the possibility of injury to the forests from the causes above referred to. The advantages of the Herty system, as it is generally known among turpentine operators, are numerous and almost appear to be exaggerated, but nevertheless the system is being taken hold of by some of the most successful turpentine producers with a view to giving a fair test to the most successful experiment which was carried on under the personal supervision of Dr. Herty. Considerable capital is being invested in potter works that will make the cups which the producers will use to catch the gum instead of boxing the trees, and if the operators who go in on a large scale find the system to be what is claimed for it, there is no doubt that millions of dollars will be secured by this system from the long-leaf pine forests of the South, and still leave the timber as valuable for lumber as it was before the turpentine was extracted.

After getting the turpentine, rosin and



THE NATIONAL ENGINE.

lumber from these forests there is still a mine of wealth on a large portion of this territory in the shape of fat lightwood, which is to be found in the limbs, upper part of the trunk which has not been used for logs, and the stumps and roots of these trees.

This lightwood is said to contain many valuable by-products, which can be had by first subjecting it to a severe heat in a cylindrical retort, the opening for charging being tightly sealed and the gases allowed to escape from the top side of the retort, after which they are condensed by the use of copper condensing worms. This process is commonly known as the destructive distillation of wood, the lightwood being perfectly carbonized. The product obtained by this first distillation is then subjected to fractional distillation by the use of copper stills whereby the by-products are separated and made ready for market. The principal product is spirits turpentine, from twenty to thirty-five gallons being produced from each cord of fat lightwood, besides tar and several other grades of oil which contain valuable medicinal and wood-preserving properties. There are in successful operation several such plants, and others are now being contemplated, and these enterprises will bring thousands of dollars out of what has for many years been considered only lightwood and too common and plentiful to be worth gathering for market. It is simply spirits turpentine, tar, charcoal, pyroligneous acid and several other by-products in their crude state. The well-known proprietors of the Southern Copper Works, McMillan Bros., who have shops at Fayetteville, N. C.; Savannah, Ga.; Jacksonville, Fla., and Mobile, Ala., have been called upon by the promoters of this industry from time to time for copper work to be used in connection with this process from the time it was first started in the Old North State until the present time, and they are still doing business at the above-named shops, where they are prepared to furnish their numerous friends and patrons with the best of material and workmanship that can be had in their line. They are also manufacturers of and headquarters for the celebrated McMillan seamless turpentine stills and fixtures, which have been and are now exclusively used by the leading turpentine producers of the United States, the territory embracing the Gulf and Atlantic States from North Carolina to Texas, inclusive. They carry a full line of these goods at each of their shops, and are therefore prepared to serve the trade with that promptness which is characteristic of a business house whose interests are most closely looked after and guarded by its several managers.

Agriculture in Egypt.

P. Franko of Alexandria, Egypt, in a letter to the Manufacturers' Record says: "The Agricultural Exhibition opened on the 11th inst. in the Ghezirah Gardens in Cairo. It was particularly brilliant, and we are told that the increasing success of that exposition has induced the committee to make several improvements for the next one, which will be held during February, 1904. The machinery and implements section was the richest. In plows and some other instruments America is at the head. In oil and gas engines, pumps, etc., Europe holds the first rank, and Italy has been particularly remarkable. Other sections contained dairy apparatus, agricultural products, seeds, cottons, phosphates, chemicals, cows, etc."

During February 2520 horses and mules were sold at the Union Stockyards at Berkley, Va., in addition to a large business done in hogs and cattle.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record,
Baltimore, Md., March 4.

In the local phosphate market the tone is better, and as in all other fertilizer material, prices are steady, with a fair inquiry. Among the charters reported last week are the schooner Marie F. Cummings, 480 tons, from Charleston, S. C., to Barren Island with phosphate rock at \$2.25 and discharged; British steamer Gladys, 1569 tons, from Tampa to Sietin with phosphate at 13/4, March, and steamer Gena, 1795 tons, from a Southern port to Europe with phosphate on private terms. Advices from Southern mining sections still continue to show a fair development in most sections, the extremely bad weather, however, restricting operations in mining. This is especially applicable to the Tennessee phosphate belt, where operations among miners have been seriously affected. The weather now is clear, and at Mt. Pleasant there are great preparations on foot for an unusually heavy business during the spring and summer months. With settled weather work will be carried on extensively, and shipments, both domestic and foreign, will be greatly accelerated. Prices for both home and export rock are firm at last quotations. The market in South Carolina is very steady, with some domestic demand and a better foreign inquiry. In the Florida section there is no important change to note. The output continues to show a good volume in the aggregate, and the demand for both hard rock and pebble is very steady from both domestic and foreign sources. Shipments from the ports for the present month are likely to be much greater than those of February.

Fertilizer Ingredients.

There is considerable activity in the market for ammoniates, and for prompt and nearby shipment offerings are absorbed at sellers' quotations. The quantity of material offered is extremely small. Prices throughout the list are firm. The market closes strong, with a good demand from the East and South.

The following table represents the prices current at this date:

Sulphate of ammonia (fast).....	\$3 10	66 3 12 1/2
Nitrate of soda, spot Balto.....	2 10	66 2 20
Blood (dried).....	2 65	66 2 67 1/2
Azotine (dried).....	2 60	66 2 60
Azotine (perk).....	2 60	66 2 60
Tankage (concentrated).....	2 37 1/2	66 2 42 1/2
Tankage (2 and 30).....	2 00 & 100	66 2 82 1/2 & 10
Tankage (7 and 30).....	20 50	66 21 00
Fish (dry).....	32 50	66 35 00

Phosphate and Fertilizer Notes.

The schooner L. Herbert Taft cleared last week from Port Tampa for Baltimore, Md., with 2230 tons of phosphate, valued at \$13,380, from the Palmetto Phosphate Co.

The stockholders of the Bronson Drug Co. of Waycross, Ga., held their first annual meeting last week, when a cash dividend of 8 per cent, was declared and 24 per cent, carried over to surplus account.

The Acetelene Chemical Co. of Warren, N. C., has been chartered, with a capital stock of \$50,000. The company will manufacture, sell and buy chemicals, etc. R. K. Hunter and others are stockholders.

The Virginia-Carolina Chemical Co. began work on its new plant at Lynchburg, Va., on the 2d inst. This plant, it is said, will cost \$100,000, and will have a capacity of 25,000 tons of fertilizer annually, employing at the start about 125 men.

Mr. J. A. Hugor, formerly of Savannah, Ga., but now living in Montgomery, Ala., has announced that he and associates will shortly erect a fertilizer plant at Montgomery. The name of the company is

the Alabama Chemical Co. Savannah capital is said to be interested in the enterprise.

The Quinn-Sharpe Wholesale Drug Co. was organized last week at Vicksburg, Miss. The capital stock is \$75,000, and the company will start business in sixty days. The incorporators are R. A. Quinn and J. G. Quinn of Vicksburg and K. W. Grafton, L. K. Sharpe and H. C. Harris of Natchez.

Mr. E. L. Gregory, who recently purchased the mineral rights in a large body of land near Graytown, Hickman county, Tennessee, left Mount Pleasant last week for his new field of operations. His mines will be put in operation at once, from which will be produced both high-grade brown phosphate and brown hematite iron ore. This property is also said to contain 50 per cent. of sulphur and \$2.90 per ton of gold.

It is stated that Mr. F. Bossee, a capitalist of New York, has purchased the factory of the Capital Fertilizer Co. of Jackson, Miss. Mr. Bossee purchased all the stock of the company from E. R. Manning and his associates. He also purchased twenty-seven acres of land north of the city, on which he will next summer erect an up-to-date fertilizer factory at a cost of \$250,000. This new factory is to be equipped for making its own acid.

The office of phosphate inspector of the State of South Carolina has been abolished. Under the act recently adopted the present incumbent, Mr. T. J. Cunningham, will retain his office until the new order takes effect, on August 17, 1903. Under the new act the board of phosphate commissioners have to make the settlements without additional compensation, but if the river mining continues to drop off as it has recently been doing there will be nothing to collect in the way of royalty on river rock.

At Mt. Pleasant, Tenn., last week the heavy rains caused a halt in operations at the phosphate mines, but they are now getting down to business again, and indications point to an active business during the spring and summer. The numerous companies are engaging contractors, wagons, teams, etc., at a lively rate, and everything will be arranged to begin work on an extensive scale at an early date. Thousands of laborers will be employed on the mines in and around town, and it is claimed by those in a position to know that this mining season will be the most active in the history of the Mt. Pleasant fields. The fertilizer factories are still in great need of rock, and the demand for phosphate grows stronger, while prices are holding up unusually well. There has been a scarcity of cars for shipping purposes on the roads here recently, but the demand is now supplied, and everything is bright for mining rock in the phosphate city.

Cottonseed-Oil Notes.

The Columbia Cotton Oil Co. of Magnolia, S. C., has been chartered, with a capital stock of \$40,000. R. S. Warnock is president; N. J. Gantt, vice-president; J. S. Davis, secretary, and J. C. McNeill, treasurer.

The following quotations on cottonseed products were made by exporters at Galveston, Texas, on the 2d inst.: Cottonseed oil, prime crude, f. o. b. Texas mills, 33 1/2 cents, February; off crude, 26 to 29 cents, according to quality; prime cottonseed meal, f. o. b. Galveston, \$23.50 per short ton.

At Memphis on the 28th ult. market quotations for cottonseed products showed the following range of values: Prime crude oil, 35 cents; off crude, 29 to 33 cents; prime summer yellow, 38 1/2 cents,

and choice cooking summer yellow, 44 cents per gallon; prime cottonseed meal, \$20.50 to \$20.75 per ton; cottonseed cake, \$20.25 to \$20.50; off meal, \$19.75 to \$20 per ton; linters, 3 to 3 1/4 cents per pound; cottonseed, including sacks, by river and by rail, in bulk, \$17, delivered in Memphis.

Quotations for cottonseed products at the New Orleans Cotton Exchange on the 28th ult. were as follows: Prime refined oil, in barrels, per gallon, 40 cents; off refined oil, in barrels, per gallon, 37 1/2 cents; prime crude oil, loose, per gallon, 34 1/2 cents; prime cottonseed cake, per ton of 2240 pounds, \$24.75; prime cottonseed meal, per ton of 2240 pounds, \$25 to \$25.25; soap stock, per pound, loose, 1.15; linters, choice, per pound, 4 cents; A, 3 1/4 cents; B, 3 1/2 cents; C, 3 3/4 cents; cottonseed, in sacks, delivered at New Orleans, per ton of 2000 pounds, \$15; in bulk, delivered at New Orleans, per ton of 2000 pounds, \$14.

Quotations on the 28th at the New Orleans Maritime and Merchants' Exchange, Limited (February shipment from the mills), were as follows: Prime cake, \$24.87 1/2 per long ton, ship's side; off cake, \$23 to \$24.75 per long ton, ship's side, according to quality; prime meal, \$25.25 per long ton, ship's side; off meal, \$23 to \$25 per long ton, ship's side, according to quality; prime crude oil, 34 cents per gallon, loose, f. o. b. mill; off crude oil, 28 to 30 cents per gallon, loose, f. o. b. mill, according to quality; prime refined oil, 39 1/2 cents nominal per gallon, loose, in barrels, ship's side; off refined oil, 37 1/2 cents per gallon, loose, in barrels, ship's side; soap stock, \$1.12 1/2 per 100 pounds, basis 50 per cent. fatty acid; linters, per pound, f. o. b. mills flat—A, 3 1/2 cents; B, 3 cents; C, 2 1/2 cents; low linters, 1 1/2 to 2 cents per pound, f. o. b. mill flat, according to quality.

The big double mills of the German-American Lumber Co. at St. Andrews, Fla., near Pensacola, have just been completed. The plant has a capacity of 160,000 feet of lumber per day, and is considered one of the largest plants in the South, with the exception of that of the Jackson Lumber Co. at Florida, which has a capacity of 400,000 feet per day. The German-American Company is composed of capitalists of this city and Germany. They have purchased a tract of timber land of over 100,000 acres. The product is sent abroad.

It is said that Mr. S. B. Camelwright of Indianapolis, Ind., with other parties from that State have purchased 1200 acres of valuable timber land in Lauderdale county, Alabama. Mr. Camelwright will erect a saw-mill on the property at once, and will shortly select a location suitable for a planing mill. He intends turning his rough lumber into well-dressed stock, and he will make quartered oak and a good quality of hardwood boards a specialty.

Henry E. Hare of Martinsburg, W. Va., has purchased the Terra Alta (W. Va.) Woolen Mills, acting for himself, H. G. Bowen and F. E. Hare. The newcomers will organize J. W. Riggs, Son & Co. to continue the operation of the plant, manufacturing ladies' dress goods.

The sales in the Joplin (Mo.) district during the week ended February 28 were 10,510,630 pounds of zinc ore and 1,029,830 pounds of lead ore, valued in all at \$190,988.

The New Orleans Railways Co. is now using Jennings, La., oil in its burners, under a contract providing for a supply of 400 barrels a day for 350 days.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Crudup—Iron-ore Mines.—C. E. Buck & Co., of Birmingham, Ala., have absorbed Crudup Mining Co.'s property, and will increase capacity of ore mines to 1000 tons per day.

Cullman—Distillery.—Krauthaus & Bogue are erecting whiskey distillery.

Ensley—Sewerage.—City will vote on sewerage system March 31; \$5,000 of bonds have been ordered issued—\$45,000 for storm sewers, \$25,000 for sanitary and \$10,000 for street improvements. Address "The Mayor."

Enfauia—Electric-light and Gas Plant.—Enfauia Gas & Electric Power Co. will remodel and enlarge its gas and electric-light plants.

Gadsden—Saw-mill.—Company of which Mr. Fullington is president, and which recently purchased saw-mill at Lenoir City, is removing same to Gadsden, and will rebuild to have daily capacity of 60,000 feet.

Huntsville—Nursery.—Alabama Nursery Co. has secured 150 acres of land near Huntsville, and will establish nursery.

Lauderdale County—Timber-land Development.—S. B. Camelwright of Indianapolis, Ind., has purchased 1200 acres of timber land in Lauderdale county, and will erect saw-mill for developing the property. Will also build \$50,000 planing mill and band-saw mill in Chattanooga, Tenn., for manufacturing the rough timber into dressed lumber.

Mobile—Oil Wells.—Baldwin County Oil & Development Co. has been incorporated for development of oil wells in Baldwin county, with capital of \$100,000. J. G. Thomas is president; A. Moog, vice-president; Jake Markstein, secretary, and Dave S. Bauer, treasurer.

Mobile—Locks and Dams.—M. T. Lewman & Co. of Louisville, Ky., have contract for construction of locks Nos. 1, 2 and 3 and dams on the Warrior river. Work will cost about \$717,000.

Montgomery—Water-power Development.—Dispatches state that Muscle Shoals Power Co. has been granted full authority by Congress for undertaking its proposed developments of water-power along the line of Muscle Shoals canal. The company contemplates erecting electric plant and transmitting the power to Montgomery, fifteen miles

distant, to Anniston and to other cities for industrial purposes. Robert A. Chapman is secretary.

Montgomery—Fertilizer Factory.—It was reported recently that Alabama Chemical Co., represented by J. W. Huger, would erect fertilizer factory. Alabama Chemical Co. has now been incorporated, with capital of \$300,000, and secured site for proposed plant. Capacity will be from 35,000 to 45,000 tons of fertilizer per year. Arrangements have been completed for construction of buildings and for equipment. J. W. Huger is president; W. F. Vandiver, vice-president; they, with Harry L. Holt, F. F. Johnstone of Montgomery and C. G. Bell, M. B. Lane and others of Savannah, Ga., compose board of directors.

Russellville—Mining.—Alabama & Virginia Mining Co., recently organized at Norfolk, Va., by Walter Sharp and others with capital of \$250,000, has secured 480 acres of mineral lands near Russellville, which it will develop.

Selma—Cannery.—Company will be organized for establishment of canning factory. Names of interested parties will be announced later.

Tuscaloosa—Plumbing.—Tuscaloosa Plumbing Co. has reorganized and incorporated, with F. B. Clements, president-treasurer; Elbert Daniel, secretary, and J. W. G. Rattee, manager; capital is \$10,000.

ARKANSAS.

Agemaw (not a postoffice)—Lumber Company.—Ouachita Lumber Co. has been incorporated, with capital of \$40,000, for manufacturing lumber, etc. Luther Crenson is president; J. T. Sifford, vice-president; J. L. Whitehurst, secretary, and D. W. Chandler, treasurer.

De Queen—Electric Plant, Ice Factory, etc. De Queen Light, Ice & Cold Storage Co. has been incorporated, with capital of \$50,000, to operate cold storage, ice plant and cotton gin. J. S. Lake is president; Frank Ogde, vice-president; I. O. Runyon, secretary.

Dodd City—Mining.—Chartered: Arkansas Zinc & Lead Mining Co., with capital stock of \$1,000,000, for development of lead and zinc mines. W. H. Sisson is president; Robert Sondstrom, vice-president; M. Mallory, secretary, and Frank Batty, treasurer.

Eureka Springs—Gold Mine.—August W. Koenig and P. M. Krausmann will let contract for large mill at the Anglo-American mine.

Harrisburg—Handle Factory.—Royal Handle Manufacturing Co. has been incorporated, with capital of \$10,000, for manufacture of handles, etc. Thomas B. Steel is president; M. D. Simmons, vice-president; S. A. Bower, secretary.

Little Rock—Shops.—Choctaw, Oklahoma & Gulf Railroad will greatly increase capacity of its shops; H. G. Clark, general manager.

Little Rock—Lumber Mills.—Cassatol Lumber Co. has been incorporated, with capital of \$100,000. H. C. Williamson is president; H. L. Howard, vice-president; J. F. Crawford, secretary, and A. Roath, treasurer.

Little Rock—Mercantile.—Chartered: Bragg Grocery Co., with capital of \$250, by W. N. Bragg (president) and others.

Magnolia—Cotton Oil Mill.—Columbia Cotton Oil Co. has been incorporated, with capital of \$40,000. R. S. Warnock is president; N. J. Gantt, vice-president; J. S. Davis, secretary, and J. C. McNeill, treasurer.

Marianna—Bridge.—Memphis, Helena & Louisiana Railway Co. will construct bridge across St. Francis river in Lee county.

Pine Bluff—Printing.—Courier Printing Co. has been incorporated, with capital of \$400, by Leo M. Andrews, S. W. Jones, E. H. Plummer and others.

Searcy—Ice Factory.—J. S. Yarnell contemplates erecting small ice factory.*

Searcy—Oil Mill.—Thirty thousand dollars has been subscribed to erect cottonseed-oil mill, and contract for machinery will be let at early date. J. B. Wooten can give particulars.

Stamps—Mercantile.—Chartered: Baker Bros., with capital of \$30,000, by F. A. Baker and others.

FLORIDA.

Defuniak Springs—Telephone System.—R. W. Storrs has been granted franchise for construction of telephone system.

Fort Myers—Bridge.—Atlantic Coast Line Railroad Co. will construct drawbridge

across Caloosahatchee river near Fort Myers; contract has not been let; F. T. Tutwiler, assistant chief engineer, Savannah, Ga.

Jacksonville—Telephone Improvement.—Southern Bell Telephone Co. will expend \$30,000 in improving its system. Switchboard will be enlarged to 1800 phones and other improvements made.

Jacksonville—Lumber Company.—Seotland Mills Co. has been incorporated, with capital of \$50,000, for operating lumber mills, by R. R. Powell, P. L. Sutherland, Arthur E. Penagan and others.

Lakeland—Palm Factory.—Southern Palm Co. has organized for the manufacture of prepared plants for decorating purposes.

Ocala—Timber Lands.—W. Goethe & Co. of Collins, Ga., have purchased and will develop 10,000 acres of timber lands.

Ocala—Timber Lands.—Peterson & Pounds of Adrian, Ga., have purchased 10,000 acres of timber lands near Ocala, and will develop same.

Pensacola—Fertilizer Factory.—It is reported that Virginia-Carolina Chemical Co. (Richmond, Va.) will erect large fertilizer factory at Pensacola.

Tampa—Cigar Factory.—Samuel I. Davis & Co. of New York will establish cigar factory.

GEORGIA.

Atlanta—Ice Factory.—Stocks Coal Co. contemplates erecting 100-ton ice factory.

Atlanta—Drug Company.—Ira De Lamater and John D. T. Lawrence have incorporated De Lamater-Lawrence Drug Co., with capital of \$25,000.

Barnesville—Knitting Mill.—Oxford Knitting Mills contemplates installing machinery to manufacture cotton towels.*

Brunswick—Car Works.—Brunswick Car Manufacturing Co. has been organized by E. C. Machen and others for erecting large plant to manufacture freight and passenger cars.

Columbus—Brick Works.—Shepherd Bros. have awarded contract for brick works with capacity of 50,000 per day.

Columbus—Gas Plant.—George J. Baldwin and associates, who own Columbus Railroad Co., operating electric-light plant for city, have purchased Columbus Gas Light Co., and will operate that plant, making extensive improvements, etc.

East Point—Saw Works.—Southern Saw Works, Isaac S. Boyd, president, contemplates making extensive improvements costing about \$50,000.

Griffin—Hardware Company.—A. J. Burr, J. P. Persons and Douglas Boyd have incorporated Burr-Persons Hardware Co., with capital of \$10,000.

Harmony Grove—Cotton-oil Mill and Ginnery.—Company reported recently to be organized for establishment of cottonseed-oil mill and ginnery has incorporated as Farmers' Oil Mill, with capital of \$15,000; no contracts awarded. Address J. F. Shannon, secretary.*

Macon—Brewery.—Acme Brewing Co. is preparing for proposed enlargement to its plant; plans provide for doubling present capacity and making other improvements at cost of \$100,000. Present capacity is 50,000 barrels per year.

Oremont—Iron Mines.—C. E. Buck & Co. of Birmingham, Ala., have purchased iron-ore property of Oredell Iron Co., and will develop same on extensive scale.

Savannah—Oil-extract Works.—Pierpont Manufacturing Co. will erect plant for extracting oil from the wood used by the company in the manufacture of boxes, etc.

Senola—Backband and Legging Factory.—Senola Manufacturing Co. will erect new three-story building for its backband and legging factory.

KENTUCKY.

Beattyville—Oil and Gas Wells.—Kentucky River Oil & Gas Co. has been incorporated, with capital of \$50,000, for development of oil and gas wells in Lee county. D. B. Redwine is president.

Beattyville—Oil Wells.—Beattyville Oil & Gas Co. has been organized, with capital of \$60,000, to drill for oil; F. A. Lyons, president; William Robinson, vice-president; M. F. Reed, secretary, and Samuel Darch, treasurer.

Lexington—Mercantile.—Grauman-Henchey-Cross Company has been organized, with cap-

ital of \$300,000, by Joseph H. Grauman and others.

Louisville—Mining.—Crater Mining Co. has been incorporated by Frederick D. Hussey, St. John Boyle, A. L. Robinson and others, with capital of \$100,000.

Louisville—Foundry.—Grainger & Co., operating foundry, have increased capital from \$100,000 to \$200,000 for enlarging plant.

Louisville—Stove and Hardware Manufactory.—Stratton & Terstege Co. has been incorporated, with capital of \$300,000, for acquiring Stratton & Terstege, stove and hardware manufacturers; Henry Terstege, A. J. Terstege of New Albany and T. M. Stutz of Louisville, incorporators.

Louisville—Book Company.—Chartered: Charles A. Rogers Book Co., with capital of \$20,000, by John J. Caffrey, Matt O'Doherty, W. A. McGee and others.

Louisville—Machine Shops.—Alvey-Ferguson Company, manufacturer of conveyors, skids, trucks and other labor-saving devices, will erect new plant, consisting of two brick buildings and boiler-house 100x40 feet each; will use electricity for distributing power—direct-connected dynamo.*

Madisonville—Saw Mills.—Bussett Bros. have purchased 700 acres of timber lands, and will erect mills.

Middlesborough—Iron Furnace.—Virginia Iron, Coal & Coke Co., general offices, Bristol, Tenn., will blow in its No. 2 furnace at Middlesborough within ten days.

Middlesborough—Coal Mines.—Stony Fork Coal Co., recently organized, has opened two new mines on Stony Fork.

Middlesborough—Coal Mines.—Fork Ridge Coal & Coke Co. is opening three new mines at Fork Ridge.

Moberly—Tile Factory.—Moberly Tiling & Manufacturing Co. has been incorporated, with capital of \$500, by Wilson Tate, J. W. and O. W. Stagner and others.

Morganfield—Coal Mine.—C. C. Thomas of Evansville, Ind., will develop coal mine at Morganfield.

Newport—Electric-light Plant.—City is investigating the establishment of municipal electric-lighting plant; R. W. Nelson, mayor.

Paducah—Docking.—Chartered: Ohio Valley Docking Co., with capital of \$500, by R. S. Barnett and A. R. Cummins of Maysville, Ky.

Paducah—Bakery, etc.—Jake Biederman, George C. Wallace, George Langstaff and others have incorporated Jake Biederman Grocery & Baking Co., with capital of \$100,000.

Richmond—Mercantile.—Chartered: Kellogg & Co., with capital of \$11,000, by J. W. Crooke and others.

Richmond Zinc Mines.—Oppenheimer & Co. of Louisville, Ky., have purchased controlling interest in Boone Creek Mining Co., and will develop the property on an extensive scale. Capital stock will be increased to \$50,000, smelters erected and other improvements made.

St. Charles—Coal Mine.—W. D. Coll of Noho, Ky., has purchased for development 134 acres of coal lands.

Wayne County—Timber Lands.—Davidson-Benedict Lumber Co. of Nashville, Tenn., has purchased and will develop large tract of timber land in Wayne county.

LOUISIANA.

Abbeville—Water-works.—Abbeville Electric Light Co. may possibly construct system of water-works for city in connection with its electric-lighting plant.

Lake Charles—Oil Wells.—Dr. F. G. Stevens of Monticello, Ill., and J. W. Keller of Decatur, Ill., officers of Superior Oil Co., will drill for oil on property near Lake Charles.

Mansfield—Ice Plant, etc.—Mansfield Ice & Cold Storage Co. has incorporated, with capital of \$25,000, to establish ice, electric plant, brick and tiling plant, cannery, etc. J. R. Frazier is president; A. E. Peer, vice-president; J. C. Packard, secretary.

New Orleans—Mercantile.—Chartered: Leopold Krauss and others have incorporated Krauss Co., Limited, with capital of \$80,000.

New Orleans—Building.—Louis P. Rice & Co. have had plans made by Toledano & Wogan for erection of seven-story factory and office building to cost \$100,000.

New Orleans—Irrigation System.—H. Bird Castle of Marietta, Pa., is president; J. Stewart Simmons of New York, vice-president; R. C. Webb of Rayne, La., treasurer.

and E. Sears of Crowley, La., secretary, of Union Rice & Irrigation Co., reported recently as incorporated under New Jersey laws with capital stock of \$5,000,000. Company will construct canal 250 feet wide and irrigate about 500,000 acres of land. Coleman, Moloche & Villere are the engineers.

New Orleans—Enameling Works.—National Enameling & Stamping Co. is preparing to erect new five-story building 266x192 feet.

New Roads—Cotton Gin.—Edw. Langlois will rebuild his cotton gin recently burned.*

MARYLAND.

Baltimore—Mercantile.—Chartered: Goldman Furniture & Carpet Co., with capital of \$200, by Harry L. Goldman and others.

Baltimore—Railway Specialty Works.—T. H. Symington Co., reported lately as incorporated with capital stock of \$1,500,000, will manufacture the Symington journal box, a standard railroad specialty, and absorb the firm of T. H. Symington & Co.; Thomas H. Symington, president, and W. Eason Williams, secretary.

Baltimore—Railway Specialty Works.—Baltimore Railway Specialty Co., recently chartered with capital of \$900,000, and Thomas H. Symington, president; J. W. Middendorf, vice-president, and W. Eason Williams, secretary, will absorb the Baltimore Ball Bearing Co., organized by J. E. Norwood to manufacture his patent ball-bearing center and side plates for railroad cars.

Baltimore—Brick Plant.—Baltimore Clay Co., recently chartered with capital of \$500,000, J. Kemp Bartlett, president, and Edward J. Bond, treasurer, has purchased 123 acres of ground as site for vitrified paving brick plant, which will be erected at cost of \$140,000; capacity at first will be 50,000 bricks per day, which will be increased to 100,000 later on; plant will include six large down-draft kilns, boiler-houses and storage-house with capacity for 3,000,000 to 5,000,000 bricks.

Baltimore—Book and Stationery Company. The Cushing Company has been incorporated, with capital of \$100,000, to conduct book, stationery and printing business. New company absorbs J. W. Bond Co. and Cushing & Co.; W. Eason Williams, president; A. Y. Delfield, vice-president; R. W. Graves, secretary.

Baltimore—Arms Company.—Baltimore Arms Co., manufacturer of fire-arms, will hold meeting March 12 to consider increase of its capital from \$200,000 to \$300,000.

Baltimore—Car Shops and Foundry.—It is reported that Baltimore & Ohio Railroad Co., G. L. Potter, general manager, has purchased 100 acres of land at Halethorpe and will erect large car shops and foundry. Plant now situated at Mt. Clare, it is said, will be transferred to Halethorpe and the present one converted into locomotive works.

Baltimore—Machinery Supplies.—Howland-Sherman Manufacturing Co., manufacturer of machinery supplies, etc., has increased capital from \$225,000 to \$300,000; address, Calvert Building.

Baltimore—Distillery.—Avalon Distilling Co. has been incorporated by Charles Bowers of Cheswick, Pa.; Frederick Dallam and John D. Cronmiller of Laurel, Md.; Howard Hammond of Baltimore and others. Capital is \$150,000.

Cumberland—Bridge.—Blue bridge, connecting Cumberland with West Virginia, will be rebuilt. Address W. C. White, mayor.

Easton—Cannery.—Preston B. Spring and John M. Elliott will erect cannery.

Eckert Mines—Coal Mines.—Consolidation Coal Co., C. W. Watson, Fairmont, W. Va., president, has commenced development of its coal mines at Eckhart.

Elkton—Marine Railway.—Chesapeake City Marine Railway & Construction Co. has been incorporated by Henry H. Brady, John Banks, George K. Houck, Wm. A. Alexander and others. Capital is \$10,000.

Frederick—Electric-power Plant.—James E. Ingram, Jr., president of Baltimore & Frederick Railway Co., Maryland Telephone Building, Baltimore, Md., states that the recent report of his company having let contract for electrical equipment of its power-house is untrue, and that no contracts have been awarded.

Hagerstown—Engine Works.—Domestic Engine Co. has been incorporated, with capital of \$10,000, by Charles B. Segner, Harry R. Segner, W. Harry Reiser and others, for manufacture of gas engines and gasoline engines, etc.

North East—Brick Plants.—United Fire-Brick Co. has been incorporated by Charles P. Bartley, A. B. Cameron, George W. Craig and others for operating Rutland Fire-Brick Co., Cecil Fire-Brick Co., Wakefield Fire-Brick Co. and Green Hill Fire-Brick Co., which will be consolidated.

Oakland—Water-works.—Oakland (Garrett county) Water-Works Co. has been incorporated by F. T. Martin, M. G. Martin, Wm. R. Offutt and others, with capital of \$50,000, for constructing system of water-works previously reported to be built by F. M. Martin of Fairmont, W. Va.

Westernport—Power-house.—Westernport & Lonaconing Railway Co. has awarded contract to Penn State Construction Co. of Philadelphia for erection of its proposed power-house, capacity of which will be 700 horsepower, and equipment includes two engines, two generators and two boilers; car barn will be of frame, 40x130 feet, with slate roof. Lewis Weber of Cumberland, Md., has contract for mill and carpenter work on power-house and car barn. Electrical equipment will be furnished by General Electric Co.

MISSISSIPPI.

Charleston—Improvement Company.—Charleston Improvement & Investment Co. has been incorporated, with capital of \$10,000, by William Quarles, Jr., E. D. Dickens, J. H. Caldwell and others.

Eastabuchie—Drug Company.—Chartered: Eastabuchie Drug Co., with capital of \$5000, by Dr. E. F. Holmes and others.

Florence—Mercantile.—Chartered: Florence Mercantile Co., with capital of \$25,000, by W. C. Ellis and others.

Hazlehurst—Lumber Company.—Perrett & Sexton Lumber Co., recently organized by F. J. Perrett and others, will construct tramway and develop its timber properties lately acquired.

Hazlehurst—Brick and Tile Works.—Hazlehurst Brick & Tile Co. has been incorporated, with capital of \$10,000, for manufacture of bricks and tile, etc.

Hazlehurst—Ice Factory.—Hazlehurst Ice Co. has purchased Ard ice factory, and will double capacity of same.

Jackson—Fertilizer Plant.—F. Bossee of New York has purchased (probably for American Cotton Oil Co.) Capital Fertilizer Co.'s plant at Jackson, and new management will erect additional buildings and operate on extensive scale.

Jackson—Fertilizer Factory.—F. Bossee of New York has purchased Capital Fertilizer Co., together with twenty-seven acres of land, on which he will erect, it is said, a \$250,000 fertilizer factory equipped for making acid, etc.

Jackson—Handle and Excelsior Factory.—Carter Bros. of Cincinnati, Ohio, will establish plant for manufacture of axe and spade handles and excelsior for mattresses.

Laurel—Mercantile.—Chartered: Laurel Grocery Co., with capital of \$10,000, by J. B. Bridges and others.

Vicksburg—Mercantile.—Chartered: Quinn-Sharpe Wholesale Dry Goods Co., with capital of \$75,000, by R. A. Quinn and others.

MISSOURI.

California—Coal Mines.—Monarch Coal & Mineral Co. has been incorporated, with capital of \$600,000, by W. H. Hites, J. W. Chaffee, Benj. Rannels and others.

Carthage—Electric Company.—Chartered: Holt Electric Co., with capital of \$10,000, by Robert Holt, J. E. Long and H. M. Broggers.

Joplin—Mining.—Irish Mining Co., with capital of \$48,000, has been incorporated by C. W. McAbee, Wm. E. Morgan, Timothy Lynch and others.

Kansas City—Mercantile.—Harvey-Dutton Dry Goods Co., organized with capital of \$125,000 by J. W. Harvey and others, has had plans made by Adriance Van Brunt & Bro. for erection of \$40,000 structure, seven stories, of mill construction.

Nevada—Oil and Asphalt Development.—Missouri Asphalt & Oil Co., recently reported incorporated with capital of \$500,000, has organized for operating asphalt and oil fields in Vernon and Barton counties, and has purchased 535 acres of land; B. B. Harlan, president, 218 La Salle street, Chicago, Illinois.

St. Louis—Machine Works.—Chartered: Beard-Hayne Debberator Co., with capital of \$20,000, by Roger Hayne, Edward W. Saunders, Albert B. Lambert and others, for manufacture of debberating machines.

St. Louis—Tea and Spice Company.—Edward Weston Tea & Spice Co. has increased capital from \$100,000 to \$200,000.

St. Louis—Chartered: Property-Holders' Repair Association, with capital of \$50,000, by Oliver J. Grace, Thomas K. Cooper, Louis B. Woodward and others.

St. Louis—Contracting.—Chartered: Contracting & Supply Co., with capital of \$900, by John Schmall, Ben Mayer, Geo. T. Barry and others.

St. Louis—Slate Roofing.—Chartered: T. H. White Slate Roofing Co., with capital of \$2000, by Thomas H. White and others.

St. Louis—Manufacturing.—Eucatel Manufacturing Co. has been incorporated, with capital of \$3000, by S. H. Brickey, P. J. Stimmiel, A. B. Barrett and others.

St. Louis—Realty Company.—Sunrise Realty Co. has been incorporated, with capital of \$10,000, by J. T. Donovan, D. H. Donovan and M. J. Murphy.

St. Louis—Optical Company.—Chartered: Oliver Abel Optical Co., with capital of \$5000, by Oliver Abel and others.

St. Louis—Advertising.—Chartered: Exposition Advertising Co., with capital of \$50,000, by Hope Carleton, J. S. Mather, John H. Boogher and others.

St. Louis—Refrigerating Machinery.—Ruemmel-Dawley Manufacturing Co. has increased capital from \$125,000 to \$300,000.

St. Louis—Construction.—Chartered: Beecher Construction Co., with capital of \$2000, by John D. Hopkins, Theodore Rassieur and others.

NORTH CAROLINA.

Asheville—Oil and Gas Wells.—E. E. Stewart of New Martinsville, W. Va., who controls extensive oil and gas leases at Asheville, will investigate with a view to extensive developments.

Asheville—Timberland Development.—Charles D. Fuller of Kalamazoo, Mich., has purchased 20,000 acres of timber lands near Asheville, and will erect large plant for developing the property; will also construct railway about twenty miles long.

Rynum—Cotton Mill.—J. M. Odell Manufacturing Co. was reported last fall as to build 10 foot dam to replace four-foot dam. It let contract this week to John W. Hays of Petersburg, Va., to prepare plans for the water-power improvements referred to.

Charlotte—Electric-power Plant.—Highland Park Manufacturing Co. will build electric-power plant to cost \$100,000 for furnishing power (2000 horse-power) to its 30,000-spindle and 1000-loom plant (recently announced to be erected) and its original mill of 13,500 spindles and 1200 looms. Contract for brick work of new mill let to R. A. Brown of Concord, N. C., and for wood work to A. K. Lostin of Gastonia, N. C.; Stuart W. Cramer, engineer in charge.

Dallas—Cotton Mill.—Dallas Cotton Mills contemplates building a No. 2 mill; present mill has 5216 spindles and 116 looms.

Fayetteville—Silk Mill.—Ashley & Bailey Co. (New York office at 109 Spring street) will build a third silk mill.

Gold Hill—Mercantile.—Chartered: J. A. Holshouser Mercantile Co.

Granite Falls—Cotton Mill.—It is reported that Rhodhiss Manufacturing Co. will double its equipment; now has 6000 spindles.

Henderson—Tobacco Factory.—Imperial Tobacco Co. has been incorporated, with authorized capital of \$75,000, for conducting tobacco business in all its forms, by James McDonald, J. Duncan McDonald, Sidney McDonald, Richmond, Va., and others.

Henderson—Hardware Company.—Holloway-Pool Hardware Co. has been incorporated, with capital of \$8000.

Henderson—Lighting Contract.—The town is ready to receive bids for lighting. Present contract expires November 30. For particulars address H. T. Powell, town clerk.

Hickory—Cotton Mill.—A. A. Shuford, G. H. Gointer, George F. Ivery and others will organize \$100,000 company to build cotton mill.

Hickory—Cotton Mill, etc.—It is rumored that the Messrs. Duke (B. N. Duke and associates) of Durham, N. C., and the Messrs. Odell (J. M. Odell and associates) of Concord, N. C., will build cotton mill to cost \$1,000,000, this amount to include development of water-power on Catawba river to furnish from 6000 to 10,000 horse-power.

Lenoir—Lumber Mill.—Lenoir Lumber Co. has been incorporated, with capital of \$50,000, by R. L. Gwyn and others.

Oil—Telephone System.—Rocky Creek Telephone Co. has been organized for construction of telephone system, by C. L. Myers, J. R. Hule, N. T. Summers, T. L. Jennings and others.

Raleigh—Electric-power Plant.—Raleigh Electric Light Co. has purchased power plant of Raleigh Ice & Electric Co. at Millbourne, as recently reported, and will utilize the power for street cars, electric lights and electric power in Raleigh; company will build additional car sheds and extend car lines.*

Red Springs—Cotton-oil Mill.—Company has organized to establish 20-ton cottonseed-oil mill. Address D. G. McMillan.*

Scotland Neck—Electric-light Plant.—City will issue bonds for erection of electric-light plant; Dr. J. E. Shields, mayor.

Warrenton—Chemical Company.—Acetelene Chemical Co. has been incorporated, with capital of \$5000, for manufacture of chemicals, medicines, etc., by R. K. Hunter and others.

Winston—Handle Factory.—Winston Handle Co. has been incorporated, with capital of \$25,000, by G. W. Edwards, W. A. Blair and others.

SOUTH CAROLINA.

Aiken—Wagon Works.—B. L. Lambert and P. J. Iseman have organized and established Aiken Wagon Works.

Charleston—Canning Factory.—Charleston Canning Co. contemplates erecting larger building and installing machinery for doubling its capacity.

Cheraw—Lumber Mill.—Chesterfield Lumber Co. is installing additional machinery for increasing capacity.

Cheraw—Warehouse Company.—Chartered: Cheraw Warehouse Co., with capital of \$2500, by W. F. Stevenson, T. M. Matheson and H. M. Duvall.

Clinton—Cotton Mill.—The report regarding a cotton mill, mentioning the Clinton Cottonseed Oil Mills, referred to last week, was not correct.

Columbia—Laundry.—Columbia Laundry Co. has been incorporated, with capital of \$6000, by W. Boyd Evans and Lawson D. Melton.

Dillon—Cotton Mill.—Maple Cotton Mills, reported recently with \$100,000 capital, has organized with Wm. M. Hamer, president, and G. D. Barlow, superintendent. Company has decided to build 5000-spindle plant. Plans, etc., now being prepared. No contracts made as yet.

Dillon—Cotton Mill.—Hamer Cotton Mills, reported recently with \$100,000 capital, has organized with R. P. H. Hamer, Sr., president, and Wm. Hamer, treasurer. Arrangements will be made to contract for plant. Extent of equipment not announced yet.

Elloree—Mercantile.—Chartered: Stack & Ulmer, with capital of \$10,000.

Enoree—Telephone System.—Enoree Bell Telephone Co. has been incorporated for constructing metallic circuit line to Spartanburg. F. Engle, J. W. Allen and M. C. Poole are the incorporators.

Florence—Tobacco Company.—Enterprise Tobacco Co. has been incorporated, with capital of \$15,000, for operating tobacco stemmery, etc., by J. W. McCown, J. L. Barringer, W. J. Wilkins, F. N. Lake and others.

Georgetown—Laundry.—Chartered: Enterprise Steam Laundry, with capital of \$2500, by H. B. Springs (president), C. J. Levy and C. S. Congdon.

Georgetown—Water-works and Sewerage.—Bids were recently published for water-works and sewerage, but city has decided to withdraw the bids and call for others later on in about July or August. Plants will cost about \$75,000, and include pumping station, wells, reservoirs, standpipe, etc. Contract for wells has been awarded; J. L. Ludlow of Winston, N. C., engineer.

Gourdin—Mercantile.—Chartered: Gourdin Mercantile Co., with T. A. Blakeley, president, and others.

Hartsville—Publishing.—Chartered: Hartsville Publishing Co., with capital of \$5000; D. R. Coker, president; T. J. Drew, secretary, and M. S. McKinnon, vice-president.

Midway—Mercantile.—Chartered: Midway Mercantile Co., with capital of \$3000, by L. B. Varn (president) and others.

Mullins—Land Improvement.—Chartered: South End Land & Improvement Co., with capital of \$10,000, by E. R. Conway, C. J. McCall and A. J. Smith.

Spartanburg—Iron Works.—Morgan Wood & Iron Co. has been incorporated, with capital of \$40,000, to continue Morgan Iron Works, which it recently purchased. Geo. W. Nichols, G. S. Coffin of Enoree, W. S. Montgomery, H. L. Bomar, Wm. M. Jones and others are among incorporators.

Spartanburg—Electric-power Plant.—Company reported last week as being organized for development of water-power on Broad river to supply electricity for manufacturing enterprises, etc., has been incorporated by John B. Cleveland, J. F. Cleveland, J. N. Cudd, A. N. Wood, T. E. Moore and others as Electric Manufacturing & Power Co., with capital of \$100,000, and privilege of increasing to \$5,000,000. Company has right to build cotton mills, operate grain and lumber mills, etc.

Summerville—Saddlery Hardware Company.—Chartered: Doar Saddlery Hardware Co., with capital of \$5000; Wm. H. Doar, president.

Sumter—Ice, Light and Power Company.—Chartered: Sumter Ice, Light & Power Co., with capital of \$70,000, by Charles T. Mason, Perry Moses and others.

Yorkville—Cotton Mill.—York Cotton Mills has erected additional building, and will install combing machinery.

TENNESSEE.

Bristol—Coal Mines, etc.—Black Mountain Coal & Coke Co. will increase capital from \$50,000 to \$300,000.

Centerville—Telephone System.—Cumberland Telephone & Telegraph Co. (Nashville) will construct line from Centerville to Kilmans.

Chattanooga—Coffin and Casket Factory.—Chattanooga Coffin & Casket Co. is installing new machinery and making improvements to cost \$50,000 that will double capacity of plant.

Chattanooga—Coal Mines.—Carbon Hill Coal Co. has increased capital from \$12,000 to \$50,000 for increasing operations.

Chattanooga—Iron-ore Mines.—It is reported that J. W. Bailey, representing Wheeling Steel & Iron Co. of Wheeling, W. Va.; E. G. Rankin of Pittsburgh, Pa.; D. E. Mitchell, president Cumberland University, Lebanon, Tenn., and others have purchased 72,000 acres of iron-ore lands in Wayne county, and will expend several millions of dollars in developing the property, establishing furnaces, rolling mill and finishing plants.

Chattanooga—Planing Mill and Saw-mill.—See item under Lauderdale county, Alabama.

Chattanooga—Electric-power Plant.—Adams & Schneider have contract at \$17,000 for erecting proposed new building of Chattanooga Light & Power Co., reported during the week.

Chattanooga—Industrial Improvement.—Z. C. and John A. Patten have purchased Stone Fort Land Co. and will improve the properties, erecting several building for industrial purposes, etc.

Chattanooga—Electric-power Plant.—Chattanooga Light & Power Co., recently reported as having awarded contracts for proposed improvements aggregating \$250,000 to its plant, has reorganized and incorporated as Chattanooga Electric Co., with capital of \$750,000.

Chattanooga—Bottling Works.—Coca-Cola Bottling Co. has been incorporated, with capital of \$400, by J. T. Lupton, R. D. Twinnam, J. F. Johnson and others.

Chattanooga—Pump Works.—James Brady, D. P. Montague, H. S. Chamberlain, S. R. Read and others have organized \$50,000 company to manufacture steam pumps.

Chattanooga—Machine Shops.—Chattanooga Machinery Co. will erect machine shops adjoining its foundry. Plans and specifications have been completed for new building and contracts will be awarded in few days; cost of improvements \$30,000.

Chattanooga—Planing Mill.—Lookout Planing Mills will make extensive improvements and additions, including erection of warehouse for storing lumber and installation of new machinery. Adams & Schneider have contract at \$50,000.

Clifton—Ice Factory.—T. S. Hughes and associates have purchased and will operate ice factory.

Englewood—Telephone Exchange.—Cumberland Telephone & Telegraph Co. (Nashville) will install exchange at Englewood.

Jackshoro—Coal Mines.—Red Ash Coal Co. has been incorporated, with capital of \$60,000, by A. G. Kyle, R. Bennett, C. M. Moore, E. M. Beasley and others.

Jackson—Knitting Mill.—Commercial Club has arranged for location of knitting mill.

Johnson City—Electric-light Plant.—City will issue \$100,000 of bonds for electric-light plant. Address "The Mayor."

Kingston—Mining.—Chartered: Blue Gem Mining Co., with capital of \$10,000, by J. E. Rodes, S. P. Blair, A. T. Daniels and others.

Knoxville—Oil and Gas Wells.—Chartered: Knoxville Oil & Gas Co., with capital of \$500,000, by R. H. Hanna, J. H. McCallie and Philip Lawrence.

Memphis—Car Works.—Binghamton Car Works, controlled by Standard Steel Car Co., will make extensive improvements, including doubling of present capacity and installation of electric-light plant. Machinery will be operated by electricity, each machine having a separate motor.

Memphis—Clothing Factory.—The Weber Company has been incorporated, with capital of \$40,000, for manufacturing clothing.

Memphis—Improvements.—American Scenic Railway & Amusement Co., 824 Chamber of Commerce Building, Detroit, Mich., has leased East End Park at Memphis, as re-

cently reported, and will expend about \$20,000 in improvements, which include pavilions 50x100 feet; track 400 feet deep by 125 feet front; C. B. Cole, 825 Chamber of Commerce Building, Detroit, consulting engineer.

Nashville—Ice Factory.—Vaughan Ice Co. has been incorporated, with capital of \$30,000, by A. Vaughan, T. E. Wells, J. A. Halloran and others. Plant is established.

Rialto—Saw-mill and Cotton Gin.—S. A. Dewese, R. C. Dewese and Wm. Lindsay of Covington, Tenn., will erect saw-mill and cotton gin.

Winchester—Furniture Company.—Haynes Furniture Co. has been incorporated, with capital of \$15,000, by J. L. Haynes, Jr., Floyd Estill, W. W. Tucker, A. J. Barnes and Jesse M. Littleton.

TEXAS.

Austin—Dam.—Austin Light, Heat & Power Co., recently chartered under Delaware laws with capital stock of \$2,500,000 by Edward C. Dowling, Harry U. Spence of Brooklyn, N. Y., and Millard H. France of New York city, has, it is reported, for its object the rebuilding of the dam across Colorado river and to supply city and private parties with light, heat and power. It is probable that the International & Great Northern Railroad, which recently purchased the Austin dam and Suburban Railroad, may have some connection with the company.

Baird—Mercantile.—Chartered: Harden Grocery Co., with capital of \$10,000, by Geo. E. Harden and others.

Beaumont—Oil Wells.—Chartered: Midland Oil Co., with capital of \$10,000, by John Scharbouer of Fort Worth, John T. McElroy of Burlington, Iowa, and Daniel F. Hewley of Beaumont.

Beaumont—Lumber Mill.—Keith Lumber Co. states that there is no truth in the recent report that it will build new lumber mill.

Clisco—Electric-light Plant.—Franchise has been granted to parties for establishment of an electric-light plant.

Dallas—Immigration.—Texas Immigration Co. has been incorporated, with capital of \$20,000, by W. J. Minton, Otis S. Eaton and J. O. Wright.

Dallas—Sash, Door and Blind Company.—Chartered: J. I. & L. W. Campbell, with capital of \$25,000, for dealing in lumber, sash, doors, blinds, etc., by J. I. Campbell and others.

Dallas—Telephone System.—J. D. Lloyd and W. H. McGrath will be granted franchise for telephone system.

De Leon—Canning Factory.—O. F. Dornblazer and associates will establish canning factory.

Denison—Transportation.—Chartered: Red River Transportation Co., with capital of \$20,000, by E. A. Thompson, J. P. Greer, G. L. Blackford and others.

El Paso—Lumber Company.—Chartered: O. T. Bassett & Co., with capital of \$150,000, by C. N. Bassett, M. C. Edwards and J. H. Frist.

Fort Worth—Telephone Exchange.—Fort Worth Telephone Co., F. B. McElroy, vice-president, will have plans made and award contracts for erection of its proposed exchange building, three stories, of brick, 50x100 feet, and cost \$30,000.

Fort Worth—Lumber Company.—Quarles Lumber Co. has been incorporated, with capital of \$40,000, by J. C. Conway of Dallas, Texas; Robert Craig of Cleburne, Texas; H. W. Leeper of Fort Worth and others.

Fort Worth—Cereal Factory.—Efforts are being made to organize Texas Pure Food Co., with capital of \$50,000, to erect the cereal factory recently reported as being contemplated by A. L. Stewart of World's Fair Food Co., Battle Creek, Mich.

Fort Worth—Coffee-roasting plant reported recently to be established by Julius Boehme of Galveston will operate as National Coffee Co. (not incorporated); Julius Boehme, president, and E. Lasker, vice-president; will install at present two seven-foot cylinders, but plant is so arranged that additional cylinders can be installed.

Gonzales—Cotton Mill.—Gonzales Cotton Mills has not finally decided as to adding the additional 7000 spindles and 210 looms reported recently.

Houston—Paper Company.—Magnolia Paper Co. has been incorporated, with capital of \$20,000, by Max Schultzer, R. S. Levy and others.

McKinney—Cotton Mill.—Proposition for cotton mill mentioned last week refers to 10,000-spindle and 244-loom plant costing \$300,000. C. C. Cunningham, Box 759, Houston, Texas, made the proposition.

Mt. Pleasant—Electric-light Plant.—Mt. Pleasant Electric Co. has been incorporated,

with capital of \$10,000, by W. A. Turner, W. C. Julian and W. J. Mize.

Port Arthur—Ice Plant.—Port Arthur Ice & Cold Storage Co. has been incorporated, with capital of \$50,000, by George M. Craig, R. H. Woodworth, Frank Cummins and others.

Port Arthur—Dock.—Chartered: Port Arthur Dock Co., with capital of \$50,000, by James Hopkins of St. Louis, Mo.; George M. Craig, R. H. Woodworth, Frank Cummins and others.

Port Arthur—Water Company.—Port Arthur Water Co., with capital of \$100,000, has been incorporated by George M. Craig, R. H. Woodworth, Frank Cummins and others.

Scurry—Cannery.—C. E. Phillips and associates have organized company to erect cannery with capacity of 8000 cans per day.

Sherman—Catering.—Chartered: Sherman Catering Co., with capital of \$10,000, by C. B. Dorchester and others.

Sweetwater—Electric-light Plant, Water-works, etc.—Electric-light plant, water-works and ice factory will be constructed. Address "The Mayor."

Waco—Clay Mines.—Company is being organized, with capital of \$50,000, for development of clay mines. Names of interested parties will be announced later.

VIRGINIA.

Alexandria—Telephone System.—Chartered: Mt. Vernon Telephone Co., by J. M. Gibbs, F. H. Wilkins, S. P. Moore, C. Lukens and others.

Bristol—Land Improvement.—Edith Land Co. has been incorporated, with capital of \$10,000, for improvement of real estate, etc. Jas. L. Kelley is president; D. D. Hull of Radford, Va., vice-president, and B. S. Gore, secretary.

Clifton Forge—Bottling Works.—Clifton Forge Bottling Works and Alleghany Bottling Co. have consolidated and incorporated as Clifton Forge Bottling Works, with capital of not less than \$10,000 nor more than \$25,000; A. C. Ford, president; D. E. Smith, vice-president; R. T. Mosley, secretary. Company will erect new two-story building; contract let to E. S. Wickline.

Clifton Forge—Bottling Works.—Clifton Forge Bottling Works has been incorporated, with A. C. Ford, president; D. E. Smith, vice-president, and R. T. Mosley, secretary; purchased and will operate plants of A. C. Ford and J. T. Blizzard.

Fredericksburg—Ice Factory.—Cool Spring Ice Co., for manufacture of ice, has been incorporated, with capital of from \$15,000 to \$25,000; M. B. Rowe, president; C. I. Stengle, vice-president; H. F. Crismond, secretary, and W. L. Bannon, treasurer.

Front Royal—Bridge.—Warren county has decided to construct steel bridge across Shenandoah river at Carsons Ford; to be 540 feet long, approaches to which will be 150 feet each; cost \$15,000. Address "County Clerk."

Lodge—Rubber-stamp Factory.—Benjamin Chambers has enlarged his rubber-stamp factory.

Luray—Copper and Manganese Mines.—W. T. Smith of Columbus, Ohio, has purchased copper and manganese rights near Campton, and will begin prospecting at once.

Lynchburg—Fertilizer Factory.—Virginia-Carolina Chemical Co. (Richmond, Va.) has commenced erection of its proposed \$100,000 factory; capacity will be 25,000 tons of fertilizer per year.

Newport News—Cannery.—It is said cannery will be established with capacity of 5000 cans per day. Names of those interested will be announced later.

Norfolk—Rail-joint Works.—G. L. Baxter of Lexington, Ky., is reported as having arranged with Norfolk capitalists for organization of \$50,000 company to build plant for manufacturing their patent rail joints.

Norfolk—Land Improvement.—Piedmont Heights Co. has been incorporated, with capital of \$25,000, for improvement of real estate, etc. L. B. Whatley is president; S. J. Masters of Washington, D. C., secretary.

Norfolk—Furniture Company.—Powell Furniture Co. has been incorporated, with authorized capital of \$5000; J. B. Powell, president; W. L. Gilchrist, vice-president, and R. L. Powell, secretary.

Norfolk—Land Improvement.—Shipyard Realty Co. has been incorporated, with capital of from \$1000 to \$5000, for laying off building lots, etc., by W. H. Knauss (president), C. W. Tebault, J. T. Gamble and others. E. W. Smith is engineer in charge of work.

Norfolk—Steel-blind Factory.—James G. Wilson Manufacturing Co. has been incorporated, with capital of not less than \$100,000 nor more than \$500,000, for operating the

steel-blind factory reported in our issue of December 11 as to be erected by James Godfrey Wilson of Olney, N. Y. Mr. Wilson is president; Percy H. Wilson of Norfolk, vice-president, and W. P. Waugh of New York, secretary.

Norfolk—Coal Lands.—Parties interested in Hocking Valley Railroad have purchased 250,000 acres of coal lands in Buchanan county from C. W. Tebault of Norfolk, Va. Among those interested are F. S. Shelton of Ohio and Theophilus King of Massachusetts.

Norfolk—Shipbuilding Plant.—It is reported that the R. M. Spedden Shipbuilding Co. of Baltimore, Md., is negotiating for site at Hampton Roads for shipyard. It is said to be interested in the Norfolk & Hampton Roads Shipbuilding Co., which recently secured site near Norfolk for large plant and dry-dock to cost several million dollars.

Petersburg—Carriage and Wagon Company.—W. H. Harrison Co. has been incorporated, with capital of \$10,000, for general vehicle business. R. W. Harrison is president; Geo. W. Harrison, secretary and treasurer.

Petersburg—Cotton Mill.—Chesterfield Manufacturing Co., incorporated with capital of \$30,000, takes over Quinn Manufacturing Co. and plant of 5000 spindles, 150 looms. Improvements will be made to mill and water-power, and spindles and looms will be added later on; J. F. Taylor of Kinston, N. C., president.

Portsmouth—Sash, Door and Blind Factory.—Hawks-Maupin Company has been incorporated, with capital of \$15,000, and privilege of increasing to \$50,000, and will take over the sash, door and blind business of the late John R. Neely, 115-117 High street. L. R. Watts is president; E. B. Hawks, secretary, and E. W. Maupin, Jr., treasurer.

Richmond—Bakery.—Connecticut Pie Baking Co. will erect two-story building and equip it with machinery with capacity for baking by steam 10,000 pies per day.

Roanoke—Silk Mill.—Valentine Bliss of Scranton, Pa., has installed a portion of the machinery for his \$30,000 branch silk mill, reported last month as to be established. He will operate as Bliss Tussah Throwing Co. Contract awarded for all machinery.

Williamsburg—Water-works.—City will petition legislature for authority to issue \$30,000 for water-works and other improvements. Address "The Mayor."

Wise—Coke Ovens.—Bridge Coal & Coke Co. has awarded contract for construction of fifty coke ovens, and will build 100 more during the summer.

WEST VIRGINIA.

Benwood—Furnace.—National Tube Co. of United States Steel Corporation, general offices Conestoga Building, Pittsburgh, Pa., will, it is reported, expend several hundred thousand dollars in the construction of new mills and in extensive improvements at its Riverside furnace. The additions, it is said, will include the open-hearth steel plant that was in contemplation some time ago.

Bluefield—Car-brake Works.—Ingram Car Brake Co. has been incorporated, with capital of \$10,000, by Richard Ingram of Roanoke, Va.; W. D. Haynes, David E. Johnston, F. M. Peters and others.

Buckhannon—Telephone System.—Chartered: Upshur County Telephone Co., with capital of \$25,000, by J. W. Downs, C. E. Downs, G. V. Downs and others.

Charleston—Lumber Plant.—Grove Creek Lumber Co. has been incorporated, with capital of \$300,000, by A. Baird, M. D. Woodyard, H. O. Middleton of Charleston, Harry Bartlett of Athens, Ohio, and others.

Congo—Bridge.—Wellsville Bridge Co. has been incorporated, with capital of \$5000, by James H. Newell, Chester, W. Va.; Perle Howard, Congo; Frank L. Wells of Wellsville, Ohio, and others.

Fairmont—Coal Mines.—Flat-Top Coal Co. has completed organization, with Charles E. Hawkins, president; E. Carl Frame, vice-president, and Charles J. Sims of Washington, D. C., secretary. Capital stock is \$1,000,000, and company has acquired 10,000 acres of coal lands, which it will develop.

Fayetteville—Coal Mines.—Chas. H. Burr of Philadelphia has leased and will develop about 2000 acres of coal lands.

Fayetteville—Coal Mines.—Edward J. Berwind of Berwind-White syndicate of New York has purchased 600 additional acres of coal lands, making the holdings about 25,000 acres in West Virginia. Fifteen miles of railroad will be constructed and property developed on an extensive scale.

Fayetteville—Coal Mines.—Edward J. Berwind of New York has purchased, and will develop about 8000 acres of coal lands.

Grafton—Electric-light Plant, Water-

works, etc.—City will issue \$90,000 of bonds for improvements, including electric lights, street improvements, sewerage, etc. Address "The Mayor."

Grafton—Flour Mill.—O. C. Jeffreys of Exchange Mills, which were burned last fall, is making arrangements to rebuild; three-story building of brick will be erected and machinery installed at cost of \$10,000.

Greenville—Telephone Company.—Monroe Mutual Telephone Co. has been incorporated, with capital of \$8000, by J. M. Bullard, C. S. Whitton, J. E. Manor and others.

Sistersville—Planing Mill and Warehouse. McCoy & Alexander will erect new planing mill and two-story warehouse 40x100 feet.

St. Mary's—Oil Wells.—Dauntless Oil Co. has been incorporated, with capital of \$50,000, by L. J. Murphy, R. O. Murphy, R. Ballard and others.

Wellsburg—Coal Mines.—Wiota Coal Co. is preparing to increase output of its mines.

Wheeling—Glove Company.—Wheat Glove Co. has been incorporated, with capital of \$100,000, by Edward P. Wheat, Geo. H. Bowers, James M. Wheat and others.

INDIAN TERRITORY.

Bartlesville—Oil Wells, etc.—It is reported that Standard Oil Co. of New York has leased oil properties near Bartlesville and will erect pumping station and three steel tanks of 35,000 barrels capacity each; company's plans also said to provide for building trunk pipe line from Bartlesville to the refinery at Needlesha, Kan., with lateral lines extending to Peru, Kan.; building of pipe line, storage tanks and pumping station to cost about \$1,000,000.

Cameron—Merchandise.—Chartered: Cameron Mercantile Co., with capital of \$100,000, by George T. Williams, C. G. Adkins and others.

Muscogee Creamery.—E. E. France of Fort Wayne, Ind., will erect creamery.

Paul's Valley—Water works.—City has issued \$40,000 of bonds for construction of water works recently reported. B. F. Evans of Newton, Kan., is in charge.

OKLAHOMA TERRITORY.

Geary—Water works.—City has voted \$52,000 of bonds for construction of proposed water works. Address "The Mayor."

Hobart—Water works.—Contracts will be let in about thirty days for construction of city's proposed \$50,000 water works system. Burns & McDonnell, 607 Postal Telegraph Building, Kansas City, Mo., are engineers.

Hobart—O. I. Companies.—Comanche and Kiowa Oil Companies, offices at St. Louis, Mo., and Hobart, have been incorporated, with capital of \$1,000,000 each, by Dr. C. C. Gibson, Charles Dexter and W. C. Dox of St. Louis, Otto A. Elliott and S. J. Foster of Hobart.

Lawton—Lumber Mill.—Comanche Lumber Co. has been incorporated, with capital of \$12,000, by Philip Duffy, G. P. Sullivan and others.

Oklahoma—Land Improvement.—Indian Land Co. has been incorporated, with capital of \$50,000, by R. H. Freeman, J. H. McCormack and others.

Oklahoma City—Oil Company.—Chartered: Ohio Oil Co., with capital of \$200,000, by C. Porter Johnson, W. C. Levees and A. M. Coffman, for development of oil fields in Oklahoma and Indian Territories.

Oklahoma City—Cannery.—Richard M. Lester, P. O. Box 1257, contemplates establishing cannery.*

Oklahoma City—Box Factory.—Mr. Middlecott is establishing factory for manufacture of boxes and excelsior.

Oklahoma City—Terminals.—Missouri, Kansas & Texas Railroad Co. will, it is reported, make extensive terminal improvements; A. A. Allen, St. Louis, Mo., general manager.

Oklahoma City—Soap Factory.—Oklahoma Soap & Oil Co., organized with capital of \$25,000, G. F. Lindsay, president, and Frank H. Shelley, secretary, will erect building, two stories, of artificial stone, 60x60 feet, and install machinery for manufacturing soap.

Prague—Land Improvement.—Chartered: Paduquah Land Co., with capital of \$20,000, by F. E. and H. I. Kingsbury and W. E. Foster.

BURNED.

Mt. Savage, Md.—Union Mining Co.'s foundry; estimated loss \$15,000.

Wm. F. Coale, Auditor for Davis Company, Davis (W. Va.) Coal & Coke Co., announces that William F. Coale is appointed auditor of accounts, with headquarters in Baltimore, Md.

BUILDING NOTES.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Abbeville, La.—Store Buildings.—Gus Godchaux will erect three brick store buildings. Walter B. Gordy and A. J. Godard will each build brick stores, and Edwards & Green will erect three brick stores.

Adairsville, Ga.—Residence.—R. L. McCollum will build \$5000 residence.

Aiken, S. C.—Hotel.—New York parties will organize the Hayne Avenue Hotel Co. for erection of proposed hotel.

Alexandria, La.—School.—City will adopt resolutions calling for plans, specifications and bids on erection of \$50,000 central high school building. Address "The Mayor."

Alexandria, La.—Asylum.—W. W. Whittington, Jr., secretary Insane Asylum, etc., will open bids March 31 for erection of buildings; main building brick, three stories, 36x180 feet; to be erected according to plans and specifications on file in office of secretary and at mayor's office, Baton Rouge. Several buildings will be erected and separate bids required on each. Certified check for 5 per cent. of bid must accompany each proposal. Usual rights reserved.

Atlanta, Ga.—Store Building.—Dr. Joseph Jacobs has contracted with M. A. Berry for erection of four-story brick and terra-cotta store building 36x195 feet.

Axton, Va.—Church.—M. E. congregation, Rev. J. W. Carroll, pastor, will erect new church.

Baltimore, Md.—Residence.—Walter E. Burnham has contract for erecting residence of J. K. Taylor.

Baltimore, Md.—Office Building.—Ferro-Concrete Construction Co., reported recently as incorporated, contemplates erecting office building, and preliminary sketches which have been made call for eight-story structure 36x60 feet.

Baltimore, Md.—Residence.—Edward H. Glidden has prepared plans for frame and stone residence 52x75 feet for Campbell Carlington.

Baltimore, Md.—Warehouse.—J. E. Lafferty has completed plans for proposed warehouse of Conway Warehouse Co., and will probably award contract for erection to J. A. Sheridan; building will be six stories, 138x165 feet.

Baltimore, Md.—Apartment-house.—J. A. Sheridan has contract for erecting apartment-house on Bloom street, recently reported. Edward H. Glidden prepared plans.

Beaumont, Texas—Depots.—Southern Pacific Railroad Co. will erect large passenger and freight depots.

Beaumont, Texas—Building.—William Weber has contract for erecting proposed \$15,000 two-story brick building for William Weiss and L. J. Hebert.

Beaumont, Texas—Building.—H. L. Townsend has contracted with Helsing & Norvell Grocery Co. for erection of one-story brick warehouse to cost \$12,000.

Birmingham, Ala.—Residence.—R. L. Leatherwood will erect two-story frame residence to cost \$6250.

Cambridge, Md.—Hospital.—George Archer of Baltimore has completed plans, as lately reported, for new building for United Charities Hospital. Plans call for brick building with stone trimmings, 136 feet long, 51 feet wide in center, with wings at each end 36 feet wide; cost \$40,000.

Charlottesville, Va.—Depot.—Chesapeake & Ohio Railroad Co. will erect \$25,000 depot; C. E. Doyle, general manager, Richmond, Va.

Clarksville, Ark.—Hotel and Theater.—Clarksville Hotel Co. has organized, with capital of \$17,000, to erect three-story brick hotel to cost \$13,000.

Columbia, Mo.—Courthouse.—It has been decided to issue \$100,000 of bonds for erecting courthouse. Address "County Clerk."

Crewe, Va.—Bank Building.—Citizens' Bank, Landon P. Jones, president, will erect new building.

Cuero, Texas—City Hall and Schools.—City will issue bonds for erection of city hall and schoolhouses. Address "The Mayor."

Cumberland, Md.—Hall.—Thos. C. Kennedy of Baltimore, Md., has completed plans for hall to be erected by St. Patrick's Catholic Church, two stories, 62x32 feet.

Durham, N. C.—Depot.—Frank P. Milburn of Columbia, S. C., is preparing plans for new union station, to be located on Southern Railway Co. site, and will probably be used by Seaboard Air Line and Norfolk & Western railways.

Evergreen, Ala.—Church.—Baptist congrega-

tion will erect \$10,000 church. Address "The Pastor."

Greenville, S. C.—Church.—Catholic Church of St. Mary's will build \$8000 structure. Address Rev. Father Gwynn.

Kansas City, Mo.—Depot.—Chief Engineer Frank D. Moore has completed plans for proposed new union depot of Union Depot, Bridge & Terminal Railway Co.; George H. Ross, president.

Lexington, Ky.—Office Building.—Security Trust & Safety Vault Co. is having plans made by Mr. Richards of Columbus, Ohio, for erection of five-story office building.

Little Rock, Ark.—School.—City will erect school building to cost \$15,000. Address "The Mayor."

Little Rock, Ark.—Office Building.—F. M. Fulk has purchased three buildings, and will improve and remodel as one office building, three stories, 140x200 feet.

Louisville, Ky.—Flats Building.—J. J. Gaffney has made plans for flats building for B. & N. Hannon.

Louisville, Ky.—Club.—Pendennis Club is considering erection of building or remodeling present structure.

Louisville, Ky.—Hospital.—Company will be organized, with capital of \$30,000, for erecting hospital. Address Samuel Grabfelder, president Young Men's Hebrew Association.

Nashville, Tenn.—Schools.—City council will erect two school buildings. No architects have been employed nor contracts awarded. Z. H. Brown, superintendent schools, may be addressed.

Nashville, Tenn.—Flats Building.—William H. Price of Chicago has prepared plans for erection of annex to Polk Flats Building.

New Bern, N. C.—Church.—Centenary M. E. congregation, R. F. Bumpas, pastor, will erect church, as lately reported; building will be of brick, with stone trimmings, slate roof, and cost about \$30,000. No plans have been accepted.

New Decatur, Ala.—Association Building.—Y. M. C. A. building, reported lately to be erected at cost of \$25,000, will be built by Louisville & Nashville Railroad Co.; Geo. E. Evans, general manager, Louisville, Ky.

New Iberia, La.—Theater.—A. B. Murray contemplates expending \$14,000 to enlarge and improve Vendome Opera-House.

Norfolk, Va.—Office Building.—Chamber of Commerce will erect building.

Norfolk, Va.—Police Station.—City Engineer W. L. Brooks has completed plans for proposed \$12,000 police station.

Owings Mills, Md.—Church.—Presbyterian congregation will erect new church. Address "The Pastor."

Raleigh, N. C.—Building.—Agricultural building for A. and M. College will be erected at cost of \$50,000. Address secretary board of agriculture.

Richmond, Va.—Bank.—Wyatt & Nolting of Baltimore, Md., will prepare plans for \$150,000 structure reported recently to be erected by American National Bank; O. J. Sands, president.

Richmond, Va.—Office Building.—Mutual Assurance Society of Virginia is having plans made by New York architect for erection of nine-story office building to cost \$250,000.

Richmond, Va.—Hospital.—Virginia Hospital contemplates building \$9000 annex.

Salisbury, Md.—Lodge Building.—Wicomco Lodge of Masons will erect Masonic temple.

San Antonio, Texas—Store Building.—Plans have been completed for proposed store building of G. Redell Moore, and call for five-story brick structure, with stone trimmings, to cost about \$75,000.

Savannah, Ga.—City Hall.—City has decided to erect \$150,000 city hall, and will advertise for plans. Address "The Mayor."

Seotland Neck, N. C.—Schools.—City will issue bonds for graded schools; Dr. J. E. Shields, mayor.

South McAlester, I. T.—Business Building. James Cambren will remodel building as store and office building.

Spalding, Ga.—Church.—Baptist congregation has awarded contract to E. J. Wilson for erection of church.

Spartanburg, S. C.—Church.—George H. Cutting & Co. of Worcester, Mass., have contract for erecting Baptist church at Spartanburg, recently reported.

Staunton, Va.—Bank.—E. W. Stewart has contract for erecting proposed building for National Valley Bank after plans by T. J. Collins & Son. Building will be one story, of brick and stone, 46x30 feet.

St. Louis, Mo.—Apartment-house.—Contracts have been awarded for erection of Mt. Vernon apartment-house, previously reported to be built at cost of \$200,000; building will

be of brick and stone, with terra-cotta trimmings, 125x137 feet. Frank H. Heuser, 2327 Washington street, prepared plans, and will have charge of building.

St. Louis, Mo.—Exposition Building.—Caldwell & Drake have contract at \$29,940 for erection of agricultural building for World's Fair.

St. Louis, Mo.—Office Building.—Tacoma Realty Co. contemplates erecting 12-story office building.

St. Louis, Mo.—Hotel.—Frank A. Hueser, 2027 Washington street, is preparing plans for \$200,000 hotel; building will be five stories, 125x137 feet, and contain all modern improvements, etc., including two electric elevators.

St. Louis, Mo.—Hotel.—Chatanqua Hotel & Development Co., R. J. Newton, secretary, will increase capital to \$25,000 and erect hotel.

Talladega, Ala.—Depot.—Alabama Mineral division of Louisville & Nashville Railroad will build \$10,000 passenger station and enlarge its freight depot.

Tampa, Fla.—Building.—Bentley-Gray Dry Goods Co. will erect four-story building with all modern improvements, including elevators, etc.

Vicksburg, Miss.—Sanitarium.—F. G. McGraw has contract for erecting \$25,000 brick annex to Dr. Street's sanitarium.

Waco, Texas—Depot.—St. Louis Southwestern Railway Co. will build depot of fireproof construction; F. H. Britton, general manager, St. Louis, Mo.

Waco, Texas—Hospital.—Sisters of Charity will erect fireproof hospital to cost \$50,000.

Washington, D. C.—Apartment-house.—Kenesaw Avenue Apartment-House Co. has been incorporated, with capital of \$175,000, by John B. Henderson, Frank L. Averill, Theodore A. Harding and others.

Washington, D. C.—Hotel.—Albert Barry has had plans prepared by C. A. Hadden for erection of steel, brick and stone hotel 70x159 feet.

RAILROAD CONSTRUCTION.

Railways.

Alexandria, La.—A. J. Hayes of Apple & Hayes, contractors, is quoted as saying that the contract for grading the Shreveport & Red River Valley Railroad from Angola Plantation to Baton Rouge, forty-seven miles, will soon be let. There will be a number of cuts and fills.

Atlanta, Ga.—H. M. Atkinson and others will, it is reported, build a belt line of railroad from Howell's Station to the proposed new union depot.

Beaumont, Texas.—Walter A. Myrick and others are reported to be interested in a plan to build an electric railway from Beaumont to Spindletop, the Burt Refinery, Sour Lake and Port Arthur, about forty miles.

Carson City, Mo.—The W. R. Stubbs Contracting Co. of Carson City is reported to have the contract for building the Rock Island's extension from Amarillo, Texas, to Tucumcari, N. M., 112 miles, and will sublet the work.

Chicago, Ill.—It is reported that the construction of double track on the Illinois Central from Fulton, Ky., to Memphis, Tenn., 123 miles, will begin immediately. H. U. Wallace is chief engineer at Chicago.

Chicago, Ill.—It is reported that the Yazoo & Mississippi Valley Railroad (Illinois Central) will build a 22 mile cut-off in Mississippi from Yarbrough, in Quitman county, to Swan Lake, in Tallahatchie county. H. U. Wallace is chief engineer at Chicago.

Chicago, Ill.—The Chicago, Rock Island & Pacific Railway is reported to have begun a survey from Graham to Throckmorton, Texas, about thirty-five miles. W. E. Dauchy is chief engineer at Chicago.

Chicago, Ill.—It is reported that the Illinois Central Railroad will soon begin work on the improvement on the Yazoo & Mississippi Valley Railroad between Memphis, Tenn., and Jackson, Miss. H. U. Wallace is chief engineer at Chicago.

Cumberland, Md.—It is reported that the proposed extension of the Western Maryland Railroad from Cherry Run, W. Va., to Cumberland, sixty-five miles, has been located, and it is expected that bids for construction will soon be asked. John Q. Barlow is chief engineer at Cumberland.

Dublin, Texas.—J. W. Riggins and others are reported to be interested in a plan to build an electric railroad from Hamilton to Dublin, and probably to Glen Rose and Cleburne, about eighty-five miles.

Farmville, Va.—The survey is in progress for the Farmville & James River Valley Railway from Rosney to Danville.

Fayetteville, N. C.—A bill has been introduced in the legislature to incorporate the Cumberland Railroad Co. to build a line from Fayetteville, twelve miles, to connect with the Aberdeen & Rockfish Railroad at Rockfish.

Grand Saline, Texas.—Mr. D. C. Earnest, vice-president and general traffic manager of the Texas Short Line Railway Co., writes the Manufacturers' Record denying the report that a survey is being made for an extension from Alba to Quitman, where the line is ultimately to be constructed.

Huntington, W. Va.—The Camden Interstate Railway Co., operating an electric line in West Virginia, Kentucky and Ohio, has increased its capital from \$1,000,000 to \$2,000,000.

Huntington, W. Va.—Joseph S. Miller, John Graham, president of the Camden Interstate Railway; George F. Miller, president of the First National Bank, and others are interested in the plan to build the Washington & Great Falls Electric Railway from Washington, D. C., to the Great Falls of the Potomac, twenty miles, the line running on the Virginia side of the river and entering Washington over the Aqueduct Bridge. The survey is to begin immediately.

Kalamazoo, Mich.—It is reported that Chas. D. Fuller of Kalamazoo will build a railroad near Asheville, N. C., fifteen or twenty miles long to develop 20,000 acres of timber land.

Live Oak, Fla.—Mr. Frank Drew, superintendent of the Suwannee & San Pedro Railroad, writes to the Manufacturers' Record that the proposed St. Mary's, Suwannee & Gulf Railway will be practically an extension of the former to a point opposite Fernandina. R. N. Ellis, Jr., is engineer in charge at Live Oak.

Louisville, Ky.—Mr. R. Montfort, chief engineer of the Louisville & Nashville Railroad, referring to recent reports, writes the Manufacturers' Record that he knows nothing about any plans to build new lines for the Louisville & Nashville from Birmingham to Huntsville or to Decatur and Gadsden.

Louisville, Ky.—The Falls City Belt Line Co. has purchased the belt-line franchise, and it is stated construction work will begin immediately. Harry L. Wood of Louisville is secretary; Samuel Bowman of St. Louis is president. Louis Rosenfield of Chicago is also interested.

Macon, Ga.—It is reported that the Macon, Dublin & Savannah Railroad will build an extension about forty miles long. J. T. Wright is general manager at Macon.

Memphis, Tenn.—Progress is being made on the Belt Line of the Union Railway at the west end of Broadway, track having been laid all the way to Kansas avenue. The next work to be done is from Cole's Mill, one mile to Kansas City Junction.

Meridian, Miss.—Mr. H. L. McKee, president, writes to the Manufacturers' Record confirming the report that a meeting of stockholders of the Selma & Cahaba Valley Railroad Co. has been called to consider offers to build and equip the line, which is projected from Selma, Ala., to Birmingham, Ala., or a point near there. A survey was made some time ago. The maximum grade is 1 per cent, and this in favor of the line.

Miami, Fla.—C. T. McCrimmon, contractor, is pushing grading on the extension of the Florida East Coast Railway south from Miami.

New Orleans, La.—The Cypremont & Bayou Teche Railroad Co. has published its charter. It proposes to build its line from some point on or near Bayou Teche, in St. Mary's parish, to Cypremont, in the same parish. The incorporators and officers are as follows: J. B. Brown, president; D. P. J. Burgulieres, vice-president and general manager; J. E. Burgulieres, treasurer; A. A. Bonvillian, J. M. Burgulieres and J. Alfred Levert.

Newport, Ky.—Mr. A. S. Berry writes to the Manufacturers' Record saying that the Ohio Valley Traction Co. proposes to construct a road on the south side of the Ohio river from Cincinnati, Ohio, to Louisville, Ky., 108 miles, via Erlanger, Florence, Union, Bigbone Springs, Ghent, Warsaw, Carrollton, Milton and Westport, at an estimated cost of about \$3,000,000.

New York, N. Y.—Messrs. A. C. Wilcox & Co., 55 Liberty street, write the Manufacturers' Record that the Fayetteville & Albemarle Railroad "is projected west from Fayetteville, N. C., through Southern Pines, Aberdeen, Little Mills, Mangum and Newwood to Concord, N. C. Considerable work has been done, and it is the intention to complete the line to Mangum or the Pee Dee river, eighty miles, by October of this year. The rest of the line is to be completed next year, making a total of about 120 miles."

Norfolk, Va.—It is reported that an elec-

tric railway will be built from Norfolk to connect the coast resorts and to have a terminal at Sewall's Point. A Johnston Ackliss is attorney for the promoters. The Chesapeake & Ohio Railway is reported to be interested.

Palestine, Texas.—The International & Great Northern Railroad will, it is reported, build extensions as follows: Columbia to Bay City, Waxahatchie to Dallas and Keechi to Fairfield. J. D. Trammell is chief engineer at Palestine.

Oklahoma City, Okla.—The Texas & Oklahoma Railroad (M., K. & T. system) has bought more land at Oklahoma City, and will, it is reported, build a large terminal. F. N. Finney is president at Oklahoma City.

Paragould, Ark.—The extension of the Paragould Southeastern Railway from Horneville, Mo., to Chickasawba, Ark., sixteen miles, is reported to be under contract to the Dalhoff Construction Co. of Little Rock, Ark. M. L. Lynch is chief engineer at Paragould.

Philadelphia, Pa.—It is reported that the Washington, Potomac & Chesapeake Railroad Co. will build an extension into Washington, D. C. Henry W. Watson is president at 95 Girard Building, Philadelphia.

Raleigh, N. C.—The legislature has granted a charter to the Raleigh & Eastern North Carolina Railroad. Among those interested are J. J. Thomas, president of the Commercial and Farmers' Bank; C. B. Barbee and J. M. Turner. The line is to run from Raleigh to Washington, N. C., about ninety miles.

Ronoke, Va.—The Norfolk & Western Railway is reported to have let contracts for forty miles of double track. It will also enlarge the yards at Williamson, W. Va. C. S. Churchill is chief engineer at Ronoke.

Russellville, Ark.—The Russellville & Dover Railroad Co. has been incorporated to build a line ten miles long from Russellville to Dover. The officers and incorporators are W. A. Baird, president; William Simpson, vice-president and treasurer; J. B. West, secretary; C. K. Campbell, S. L. Poynter, R. J. Owens, E. Truett, W. B. Berry, W. J. Brown, M. R. Croft and W. R. Hogins.

Sour Lake Springs, Texas.—It is reported that a railroad will be built to connect Sour Lake with the proposed line of the International & Great Northern Railroad from Houston to Beaumont.

St. Louis, Mo.—Mr. J. F. Hinckley, chief engineer of construction of the 'Frisco system, writes to the Manufacturers' Record denying the report that the 'Frisco's Denver line is being extended from Oklahoma City northwest to Alvard. He says that the Arkansas Valley & Western, which Johnston Bros. are building, extends from Red Fork Junction, I. T., to Alvard, Okla. He knows nothing about any plan to survey from Paris, Texas, to Galveston.

St. Louis, Mo.—It is reported that the St. Louis & Iron Mountain Railroad will build a large yard near Denning, Ark. H. Rohrer is chief engineer at St. Louis.

St. Louis, Mo.—It is reported that the St. Louis & San Francisco Railroad Co. will build from Brady, Texas, to San Antonio, Texas, during the summer. J. F. Hinckley is chief engineer of construction at 800 Fullerton Building, St. Louis, Mo.

Tampa, Fla.—The Seaboard Air Line's extension from Tampa to Sarasota is now reported completed.

Tuscaloosa, Ala.—Preparations are being made to extend the Tuscaloosa Belt Railway to Holtan. W. A. McCalla is engineer, and F. W. Mounish, superintendent.

Urania, La.—Mr. Henry E. Hardtner, president of the Natchez, Urania & Ruston Railway, writes to the Manufacturers' Record confirming the report that the company will build an extension from Hinton to Newport, La., six miles. The contract has been awarded.

Washington, D. C.—Arthur Lee, vice-president of the Charleston, Clendennin & Sutton Railroad, 1517 H street N. W., Washington, D. C., will receive bids from March 10 to March 20 for the construction of the extension from Otter, W. Va., to a point about twenty-five miles up the Elk valley. Plans and specifications may be seen at the office of the general superintendent, Charles K. McDerhott, at Charleston, W. Va., on and after March 10.

Washington, D. C.—The Washington, Arlington & Falls Church Railway is reported to have completed a survey for an extension from Falls Church to Fairfax Court House, Va.

Street Railways.

Anniston, Ala.—It is reported that the Anniston Electric & Gas Co. will build double tracks on Noble and Tenth streets.

Beaumont, Texas.—Mr. H. K. Johnson is

quoted as saying that the Beaumont Street Railway has issued \$400,000 of bonds instead of \$300,000, because it will have to build more line than was at first expected.

Beaumont, Texas.—H. K. Johnson, president, is reported as saying that work on the Beaumont Traction Co.'s extension to Spindletop has begun, and he hopes to have the line in operation by April 1.

Birmingham, Ala.—J. W. Worthington and associates will, it is reported, build an electric street-car line connecting Florence, Tusculum and Sheffield, Ala. Henry Parsons of New York is president of the company.

Gainesville, Ga.—The line of the North Georgia Electric Company has been completed to New Holland, and the road is being pushed to the Chattahoochee river.

Kansas City, Mo.—The Metropolitan Street Railway will, it is reported, build an extension on Forty-seventh street, Prospect avenue and Fifty-seventh street to Swope Park.

Morgantown, W. Va.—Construction work has begun on the street railway in which Senator Stephen B. Elkins and others are interested.

Nashville, Tenn.—It is reported that a street railway storage yard will be established by the Nashville Railway.

Nashville, Tenn.—The Nashville Railway Co. has applied for an amendment to its charter to enable it to make extensions. The company has begun changing the gauge of its tracks to standard gauge.

Ronoke, Va.—It is reported that the Ronoke Railway & Electric Co. will build extensions, including a line to Fincastle, eighteen miles.

Selma, Ala.—W. R. Hall of Selma will, it is reported, apply for franchises for an electric railway in Decatur and New Decatur, Ala.

Somerset, Ky.—The board of council of Somerset is to receive sealed bids for the sale of an electric street railway franchise until 7 P. M. on March 23. T. R. Griffin, mayor, can give further information.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Awnings.—M. S. Stribling, Westminster, S. C., wants awnings for store fronts.

Boiler.—Hamlet Lumber Co., Hamlet, N. C., is in market for 130-horse-power boiler.

Boiler and Engine.—Uriah Fitzpatrick & Co., McMechen, W. Va., want engines and boiler or gas engine and electric motor for light; also building materials.

Boiler and Engine.—See "Saw-mill."

Boiler and Engine.—C. M. Shackelford, Albany, Ga., wants one 50 to 75-horse-power second-hand (Corliss) engine and 80-horse-power high-pressure boiler.

Boiler and Engine.—See "Candy Machinery."

Boiler and Engine.—J. W. Woodward, Old Hundred, N. C., wants engine and boiler, about twenty-five and thirty horse-power, respectively.

Boiler and Engines.—See "Extract Plant."

Boilers and Engines.—B. M. Vaughn, Dothan, Ala., will need 40-horse-power boiler, 35-horse-power engine, 25-horse-power boiler and 20-horse-power engine.

Boilers and Engines.—Binney & Smith Co., 8133 Fulton street, New York, N. Y., wants second-hand 80 to 100-horse-power automatic cut-off or Corliss engine, horizontal return flue tubular boiler about 50 horse-power, horizontal return flue tubular boiler about 80 horse-power, one freight elevator for five-story building and one for two-story building, one water heater for boilers.

Bowling Alley.—See "Heating Apparatus."

Brick Machinery.—Hazelhurst Brick Co., Hazelhurst, Miss., will need soft-mud machine.

Building Material.—E. N. Hodges, Kinston, N. C., wants several tons of steel I beams and columns.

Building Materials.—See "Boiler and Engine."

Building Materials.—West Virginia Architects & Builders, Clarksburg, W. Va., want estimates on all classes of building materials.

Building Materials.—See "Electrical Equipment."

Candy Machinery.—Pine Bluff Bottling Co., Pine Bluff, Ark., wants engine, boiler and full equipment of candy machinery, including kettles, etc.

Canning Machinery.—Stokely Bros. & Co., French Broad, Tenn., want equipment for two canning factories for handling 10,000 cases each.

Canning Machinery.—Dr. J. R. Sherman, Sand Mountain, Ala., wants outfit for canning.

Canning Machinery.—Richard M. Lester, P. O. Box 1257, Oklahoma City, O. T., wants to correspond with manufacturers of canning machinery.

Canning Machinery.—White Hill Plantation Co., Wm. F. Beverly, president, Pretoria, Ga., wants small canning outfit and evaporating plant; also engine for farm work.

Car-wheel Press.—Peacock's Iron Works, Selma, Ala., wants small car-wheel press, either new or second-hand.

Cereal-mill Apparatus.—John Bradford, Montgomery, Ala., wants to communicate with vendors of machines used for filling strawboard cartons with such goods as oatmeal, grape nuts, etc.

Church Furniture.—I. W. Cooper, chairman building committee, Brookhaven, Miss., wants prices on pulpit, pews and furnace for church.

Clock.—See "Railway Equipment."

Cotton Compresses.—See "Oil Mill."

Cotton-duck Manufacturers.—G. V. Gress Co., Plant Hayflower, Ga., wants addresses of manufacturers of or dealers in cotton ducking.

Cotton Gln.—See "Oil Mill."

Cotton Gln.—Edw. Langlois, New Roads, La., wants cotton-gln equipment.

Cotton Machinery.—Oxford Knitting Mills, Barnesville, Ga., wants to correspond with makers of cotton-towel machinery.

Cotton Machinery.—Catawba Cotton Mill, Newton, N. C., wants new or second-hand 40-inch breaker looper without feeder attachment, and one steel tower for 10,000-gallon tank, either new or second-hand.

Cotton-mill Supplies.—W. T. Noblitt, Kerrville, Texas, wants cotton-mill supplies.

Dam.—Union Power & Manufacturing Co., Union, S. C., will receive bids until March 21 for construction of a rubble masonry dam containing about 3000 cubic yards, a concrete masonry power-house containing about 4000 cubic yards, and two earth dams containing about 19,000 cubic yards. Plans and specifications may be seen at Union. Usual rights reserved.

Electrical Equipment.—See "Extract Plant."

Electrical Equipment.—See "Quarrying Equipment."

Electrical Equipment.—See "Boiler and Engine."

Electrical Equipment.—American Scenic Railway & Amusement Co., 824 Chamber of Commerce Building, Detroit, Mich., will need 25 to 40-horse-power gasoline engine and electric motors; also building materials, etc.

Electrical Machinery.—See "Paint and Varnish Mills."

Electric light Plant.—M. E. Worrell, Murfreesboro, N. C., wants electric-light plant, about 300 or 400 incandescent lamps.

Elevator.—See "Flour Mill."

Elevators.—See "Boilers and Engines."

Engine.—P. H. Porter, Clinton, Ky., wants prices on 12x42-inch (Corliss) engine.

Engine.—See "Canning Machinery."

Engine.—Chas. Markwell, Versailles, Ky., wants portable gasoline engine, ten horse-power.

Engines.—See "Electrical Equipment."

Excelsior Machinery.—See "Mattress Machinery."

Extract Plant.—Allen Extract Co., Fuels Run, Va., wants boilers, engines, vacuum pans, vacuum pumps, dynamos and supplies, water pump, boiler pump, tank tubs, shafting, pulleys, leather belting, pipe machine and general line of mechanical tools.

Filling Machines.—See "Cereal-mill Apparatus."

Flagstaff.—Capt. M. G. Spinks, quartermaster, Fort McHenry, Md., will receive sealed proposals (in triplicate) until March 31 for erecting flagstaff, Fort Carroll, Md. United States reserves usual rights. Information furnished on application.

Flour Mill.—Farmers & Merchants' Milling Co., Ripley, Tenn., wants equipment for

100-barrel flour mill and elevator for both corn and wheat.

Flour Mill.—R. D. Williams, Lawrenceburg, Ky., wants complete equipment for 100-barrel flour mill and 1500-bushel meal plant.

Flour-mill Machinery.—E. R. Horton, Lowndesville, S. C., wants smutter and bolting cloth for wheat mill.

Foundry Equipment.—See "Pipe-cutting Machine."

Furnace.—See "Church Furniture."

Glass-working.—See "Glazing Machine."

Glazing Machine.—G. W. Gettler & Co., 719 North Eutaw street, Baltimore, Md., wants to purchase hard metal glazing machine used for purpose of setting stained glass in hard metal, such as galvanized tin, etc., in place of lead, as is more generally done.

Heating Apparatus.—Rev. E. J. Wunder, Cumberland, Md., wants prices on steam or hot water heating for hall; also wants four bowling-alley equipments, etc.

Hoisting Plant.—L. D. Sprague Ice Co., California, Mo., will soon be in the market for an ice hoist (chain hoist) eighty feet long.

Hydraulic Plant.—East Carolina Railway, Henry Clark Bridges, president, Tarboro, N. C., wants water tank on a 30-foot steel tower, and a hydraulic ram.

Ice Plant.—See "Hoisting Plant."

Ice Plant.—J. S. Yarnell, Searcy, Ark., wants catalogues on ice machinery.

Iron and Steel.—Henry Krause, 141 Broadway, New York, N. Y., wants large quantity of second-hand iron or steel, which must be round and of one-quarter inch diameter, any lengths.

Lard Plant.—Crescent City Stockyard & Slaughter-House Co., Ltd., New Orleans, La., will be in market for equipment for compound lard plant, capacity one carload per day.

Lighting Plant.—Town of Henderson, N. C., is receiving bids for lighting, contract to begin next December. Address H. T. Powell, town clerk.

Lumen Metal.—Newton Heston, purchasing agent Seaboard Air Line Railway, Portsmouth, Va., wants addresses of manufacturers of Lumen metal.

Machine Shops, etc.—M. T. Endicott, chief of bureau of yards and docks, Navy Department, Washington, D. C., will open bids April 4 for construction of brick and steel building for machine, boiler and blacksmith shops for department of steam engineering at navy-yard, Charleston, S. C. Appropriation available for this work is \$342,000. Plans and specifications will be shown contractors by the engineers in charge.

Machine Tools.—See "Extract Plant."

Machine Tools.—George Foundry and Machine Works, Rome, Ga., wants one 24-inch engine lathe, eight-foot bed, modern pattern, with union independent lathe chuck; second-hand machine preferred.

Machine Tools.—Alvey-Ferguson Company, Louisville, Ky., will be in the market for punches to punch one-quarter inch hole to one-half inch in three-eighths inch steel; also shears for cutting flat steel and angles.

Machine Tools.—Southern Foundry & Machine Co., 719 Jacksonboro street, Knoxville, Tenn., wants second-hand iron planer 36x40 inches by 10 feet, engine lathe of about five-foot swing, keyseat machine that will key-seat up to at least one inch, bolt machine, centering machine, hack-saw machine and twist-drill grinder.

Match Machinery.—Box No. 1, Ronda, N. C., wants information regarding machinery, mixtures, etc., used in manufacture of matches.

Mattress Machinery.—P. W. Maer, Columbus, Miss., wants addresses of manufacturers of mattress and excelsior machinery.

Mill Supplies.—See "Saw-mill."

Mill Supplies.—See "Extract Plant."

Mill Supplies.—See "Paint and Varnish Mills."

Mining Equipment.—See "Paint and Varnish Mills."

Mining Equipment.—Lee L. Galt, Spring Place, Ga., wants a 10 to 20-stamp mill, second-hand (Standard make preferred).

Oil Mill.—Farmers' Oil Mill, Harmony Grove, Ga., wants outfit for one-press cottonseed-oil mill and ginny.

Oil Mill.—D. C. McMillan, Red Springs, N. C., wants addresses of manufacturers of cottonseed-oil-mill machinery.

Oil Mill.—Corinth Water-Works Co., Corinth, Miss., wants to correspond with parties who furnish and erect cottonseed-oil mills complete and supervise erection.

Oil Mill.—S. O. Naurangchand, postoffice Phagwara Market, N. W. R., Punjab, India, wants to correspond with manufacturers of mill to extract oil from poppy, rape, linseed

and castor seeds; also wants to correspond with manufacturers of cotton-baling presses.

Paint and Varnish Mills.—South Atlantic Varnish and Paint Works, Jacksonville, Fla., wants crushers and pulverizing machinery, lead and color mills, varnish fillers, mechanical dryer, varnish kettles, furnace for baking minerals, storage tanks, varnish pumps, thermometers, electric or gasoline motors, belting, pulleys, etc.

Paper-box Machinery.—Oxford Knitting Mills, Barnesville, Ga., wants to correspond with makers of machinery for manufacturing paper boxes.

Pier.—Chas. J. Allen, lieutenant colonel engineers, United States engineer office, 2001 I street N. W., Washington, D. C., will receive sealed proposals until March 30 for reconstruction of Pier No. 5 of aqueduct bridge across Potomac river at Georgetown, D. C. Information furnished on application.

Pipe-cutting Machine.—Chattanooga Pipe & Foundry Co., Chattanooga, Tenn., wants pipe-cutting and threading machine that will cut and thread from one and one-half to six inches.

Piping.—C. P. Townsley, quartermaster, Fort Monroe, Va., will receive sealed proposals (in triplicate) until March 26 for constructing 12-inch cast-iron sewer discharge pipe. Information furnished on application.

Powder Machinery.—N. F. C. Cramer, Charleston, S. C., wants information regarding machinery used in manufacture of powder.

Power-house.—See "Dam."

Quarrying Equipment.—T. M. Aderhold, Anniston, Ala., wants to purchase outfit for crushing sandstone with capacity of from 50 to 100 yards per day; also wants electric motor for driving crusher.

Railway Construction.—Plans and specifications will be ready on and after March 10 for extension of Charleston, Clendenin & Sutton Railroad, twenty-five miles long. Proposals will be opened March 20. For information address Chas. K. McDermott, general superintendent, Charleston, W. Va., in whose office plans will be on view. Arthur Lee, vice-president, 1517 H street N. W., Washington, D. C., will receive the proposals.

Railway Equipment.—Raleigh Electric Co., Raleigh, N. C., wants all kinds of material and railway supplies.

Railway Equipment.—W. L. Rankin & Bro., Mars Bluff, S. C., want new or second-hand trucks and small steel rail for dryhouse of some 8000 to 10,000 feet daily capacity; also want watchman's clock.

Railway Equipment.—John F. Riley Foundry and Machine Works, Charleston, S. C., wants small locomotive with wide-face wheels, three-foot gauge, suitable for wooden road; new or second-hand.

Railway Equipment.—Apex Equipment Co., 11 Broadway, New York, N. Y., wants one 30-ton Shay-gear standard-gauge locomotive, two 7 to 10-ton Dinkey engines, one 40-ton Shay-gear standard-gauge locomotive, four steam shovels of one and one-half yards dipper capacity with standard-gauge trucks, six 12-ton 36-inch gauge saddle-tank contractors' locomotives, four miles of track, about 45-pound rail, for use in Pennsylvania.

Rope.—Barataria Canning Co., Biloxi, Miss., wants addresses of parties handling or manufacturing rope used for well-drilling.

Saw-mill.—Pencock's Iron Works, Selma, Ala., wants 50-horse-power side-crank engine, 60-horse-power boiler and saw-mill outfit for 30-foot carriage with three head-blocks, with beat feed that you can put on same, one 60-inch inserted tooth, best make; steam nigger, belting, etc.

Scales.—M. T. Endicott, chief of bureau of yards and docks, Navy Department, Washington, D. C., will receive sealed proposals until March 14 for a 100-ton railroad track scale at navy-yard, Pensacola, Fla. Plans and specifications will be furnished by the bureau.

Showcases.—M. S. Stribling, Westminster, S. C., wants showcases for store.

Tank.—See "Hydraulic Plant."

Tanks.—Florida Cotton Oil Co., Chattanooga, Tenn., wants upright storage tanks holding from 100 barrels up to 2000 barrels; also wants iron, steel or pipe water tower forty-five to sixty feet high, with tank from 14,000 to 25,000 gallons.

Telephone Equipment.—Chowan & Roanoke Telephone Co., E. S. Askew, general manager, Windsor, N. C., wants prices on (delivered) poles, wire, stringing line, phones, etc.

Tin-can Machinery.—N. F. C. Cramer, Charleston, S. C., wants addresses of manufacturers of machinery for making tin cans and other tinware.

Tobacco Machinery.—J. L. Barringer, Florence, S. C., wants automatic tobacco-drying plant.

Tower.—See "Textile Machinery."

Trucks.—See "Railway Equipment."

Vinegar Mill.—Clifton Forge Bottling Works, Clifton Forge, Va., will need extract, cider and vinegar fixtures.

Water Main.—Board of public works, Baxter Brown, secretary, Kansas City, Mo., will open bids March 5 for furnishing and laying 36-inch cast-iron water main, weight 475 pounds per lineal foot, a distance of about 18,330 feet. Another bid for furnishing all labor necessary to lay said main, Kansas City to furnish the material. These bids are in alternation. Specifications may be secured from superintendent of water department. Certified check for 5 per cent. Usual rights reserved.

Water Tower.—See "Tanks."

Water Tower.—T. D. Seaberry, secretary, Marshall, Texas, will receive sealed proposals until March 13 for steel water tower. Plans, specifications and forms of contract, bond and proposal may be seen at offices of T. Howard Barnes, engineer, 7 Water street, Boston, Mass., and Jacksonville, Fla., and be had after March 1 on application to secretary, accompanied by deposit of \$5 until return of plans, etc., or upon submission of proposal. Certified check for \$500 must accompany each bid. Usual rights reserved.

Water-works.—Atlanta Water-Works, R. M. Clayton, city engineer, Atlanta, Ga., wants new reservoir.

Water-works.—Washington, La., will want boilers, pumps, cast-iron water pipe, stand-pipe, valves, hydrants, etc. Address Ira W. Sylvester, Alexandria, La., engineer.

Well-drilling.—Fairmont Oil Co., Fairmont, W. Va., wants machinery for drilling oil wells.

Wire Fencing.—Lightsey, Lewis & Caruthers Cattle Co., Bartow, Fla., will need barbed wire fencing.

Woodworking Machinery.—E. E. Rueter, Basic City, Va., wants catalogues of machinery for reducing slabs of logs into dimension stock, saws suitable for working up slabs, rip saws and cut-off saws.

Woodworking Machinery.—J. C. Brackin, Greenville, Tenn., wants prices on new and second-hand wood insulator pin machines.

TRADE NOTES.

J. D. Hurley and A. B. Holmes.—They were formerly connected with the Standard Pneumatic Tool Co., are now associated with the Rand Drill Co. in the "Imperial" pneumatic tool department.

C. C. Murray.—C. C. Murray will be connected with the Railway Appliance Co., with headquarters at Pittsburg, giving his time more particularly to the sale of the Q and C pneumatic tools.

Woodworking Machines.—About forty woodworking machines, ranging from a 12-inch planer to the finest scroll machine, are offered for sale by W. W. Robertson, Box 230, Norfolk, Va. Write for details regarding the equipment.

Machinery House for Sale.—An established and profitable machinery-supply house is offered for sale by "Machinery Supplies," address care Manufacturers' Record. The business is located in the South, and either a half or whole interest can be obtained at equitable figures.

Waterbury Brass Co.—This company states that in view of the present high price of copper and the general conditions of the metal market, it withdraws all prices. Inquiries are solicited before placing your orders, and upon receipt of same the company will name best prices. Offices at 122 Centre street, New York.

Cotton Mill for Sale.—A complete cotton mill, now in operation, is offered for sale. The present owner desires to dispose of the property because of inexperience and lack of capital. There are 3000 spindles and 60 looms in position. For information address "Cotton Factory," care Manufacturers' Record.

Modernizing Engineers.—Messrs. Dodge & Day, the modernizing engineers of Philadelphia, have been commissioned by the Ingersoll-Sergeant Drill Co. to report on variable speed motor equipment for the new Phillipsburg plant, and have been awarded the contract to equip with motor drives a number of the large machine tools.

Lumber-Mill Machinery.—The plant of Parrott Lumber Co. has been bought by Ed L. Thomas, proprietor of the Valdosta Foundry & Machine Co., Valdosta, Ga. Mr. Thomas will dismantle the plant and sell the equipment. An opportunity to purchase lumber-

mill machinery at low prices will be afforded. Write for particulars.

Stove Foundry for Sale.—A fully-equipped stove foundry located in Zanesville, Ohio, a city of 30,000 persons, is being offered for sale. The plant has been conducting a successful business, but the recent death of one of the owners makes a sale necessary. Guardian Trust & Safe Deposit Co., Zanesville, Ohio, can be addressed for particulars.

Valuable Marble Property.—It consists of about fifty-five acres of second Tennessee brown and white mottled marble, said to be the only available variegated marble property in the State. The quarrying plant is fully equipped with modern machinery. The property is offered for sale by Jas. W. Drape & Co., 425 Fourth avenue, Pittsburg, Pa.

Stringfellow & Webster.—This firm has been organized and will conduct business as brokers and agents, offices at Richmond, Va. They are members of the grain and cotton exchange, and offer their services to the public. Mr. Stringfellow has been in the grain business for years, and the new firm will handle iron in its different forms as a specialty.

A Buckeye Contract.—Buckeye Iron & Brass Works, Dayton, Ohio, has received contract to furnish complete a 40-ton cottonseed-oil mill for Eldorado (Ark.) Cotton Oil Co. The Buckeye Company makes a specialty of designing oil mills, manufacturing the machinery required and furnishing plants complete. It has been highly successful in this chosen work.

Pittsburg Filter in New York.—Pittsburg (Pa.) Filter Manufacturing Co. announces that it has opened an office in New York city. It is located at No. 29 Broadway, in charge of R. Dorn. Mr. Dorn has had considerable experience in water purification, the manufacture of equipments for which is the Pittsburg Company's specialty. Mr. Dorn was formerly connected with Industrial Water Co. of New York.

F. M. Hicks Railway Equipment.—Orders for equipment to be rebuilt continue to reach F. M. Hicks, 277 Dearborn street, Chicago. Hicks' contracts just filed are for a 16x24-inch eight-wheel locomotive, 16x24-inch mogul engine, four-wheel switch engine, 66-foot exhibit car, combination passenger and baggage coach, refrigerator cars and eighty flat cars. The buyers are prominent lumber manufacturers, railways and others.

Ingersoll-Sergeant in Philadelphia.—Ingersoll-Sergeant Drill Co. announces the removal of its Philadelphia offices from Witherspoon Building to Arcade Building, where callers will hereafter be welcomed. It is needless to state that the company referred to is the well-known manufacturer of air compressors, rock drills, coal-cutters, stone-channeling machines, etc. Main offices at 26 Cortlandt street, New York.

Wants Partner in Stove Works.—An exceptional opportunity to engage in a manufacturing business is offered by O. W. Snyder of Lexington, Ky. Mr. Snyder seeks a partner with about \$5000 to invest. An arrangement can be made whereby partner will manage the plant. The business is well established. Gray-iron castings, steel ranges, heating and cooking stoves, etc., are manufactured. Send for full details.

Justice Cox, Jr., & Co. in New York.—Increasing business of Justice Cox, Jr., & Co. (of Philadelphia) in New York has necessitated the establishment of an office in the latter city. Tailmadge Delaford, long identified with the iron and steel business in New York city, is in charge, located at 156-158 Broadway. Railway equipment, coal and coke are the Cox offerings. This is well known to numerous satisfied buyers.

A Modern Brick Plant.—A complete modern brick plant will be established by the National Building Material Co., J. Q. Dickinson, manager, Norfolk, Va. It will produce common clay brick, pressed-clay brick, concrete brick (sand and cement), artificial stones, etc., with the company's patented machinery. About 10,000,000 will be the annual output. The company has under consideration the placing of similar plants throughout the United States. Its capital is \$300,000.

Hartfelder-Garbutt Company.—Purchasers of equipments and supplies for industrial establishments in the South are invited to correspond with the Hartfelder & Garbutt Company, Bay and Jefferson streets, Savannah, Ga. This company has been incorporated with capital of \$12,000, and will handle mill and railroad supplies, machinery of all kinds, etc. Some goods will be handled on

commission, but the business will be mainly buying and selling. G. A. Garbutt is a member of the corporation.

Engine for Electric Lighting.—That season is approaching when many householders give consideration to the equipment of their summer residences. One of the important facts of modern equipment is the electric-lighting service. In selecting the electric plant a most important consideration is what engine shall be used. National Engine Co., Rockford, Ill., manufactures gas and gasoline engines which have been successfully used in this branch of service. Write for details regarding the National engines.

Worth Noting—It's About Belts.—The offer of Graton & Knight Manufacturing Co., Worcester, Mass., to send, free of charge, one of its superior oak-tanned belts to any manufacturer who would like to test it, is attracting a good deal of favorable attention. The reputation of this fine old house is a guarantee of the excellence of its belting and that it will in every minutest respect do exactly as it agrees. It is suggested that our readers write the company for information concerning the offer.

Southern Asbestos Manufacturing Co.—This company announces that John A. Selph has leased the plant and will continue it under the title of John A. Selph, Successor. The company is well known as a manufacturer of high-grade asbestos and magnesia sectional steam-pipe coverings, molded block, standard cements, etc. Mr. Selph will aim to continue the reputation of the product in this regard. Buyers of the products referred to will find it to their advantage to obtain Mr. Selph's prices before they make contracts.

Austin Manufacturing Co.—This Chicago enterprise has found it necessary to establish a branch office at Atlanta, Ga. Modern accommodations have been secured at 1015 Prudential Building, and W. E. Austin is the manager. Mr. Austin will be able to assist in meeting the wants of Southern buyers of Austin equipment, so that orders can be promptly filled. Austin Manufacturing Co. is the well-known maker of road-building machinery, contractors' ditching machines and other apparatus, crushers, dump cars and carts, pumps, etc.

S. B. Alexander, Jr., Co.—As engineer and manufacturer this company is well known throughout the South. Its dynamos, motors, boilers, engines, electrical apparatus and other machinery and supplies generally have a large sale. The company announces that it has just completed a complete shop equipment for repairing all kinds of electrical apparatus. This action will enable the company to accept small and large contracts in the electrical repair line, and to give such business prompt and careful attention. The Alexander establishment is at Charlotte, N. C.

New Type Water-Softening Equipment.—A new type of plant for softening water has been planned by the Pittsburg (Pa.) Filter Manufacturing Co. This new type is a continuous flow water-softening plant, with especial reference to railroad needs. It embodies distinctly radical departures from hitherto accepted methods, as well as including features that will readily appeal to those familiar with the underlying principles governing the designing and operation of water-softening plants. The plant is especially designed for supplying purified water for locomotive boiler consumption. Further details can be obtained by writing the company named above.

Westinghouse Motors.—Llewellyn Iron Works of Los Angeles, Cal., will equip for driving by electric motors. Induction motors will be direct coupled or belted to lathes, planers and other machinery, and line shafting will be entirely done away with. Pacific Light & Power Co. has recently purchased from Westinghouse Electric & Manufacturing Co., Pittsburg, Pa., for this plant twenty induction motors, ranging in size from two horse-power to seventy-five horse-power, which are now being installed. Kern River Power Co. of Los Angeles has recently purchased from Westinghouse Company two type C compound-wound 150-kilowatt generators for power-house.

Keystone Drop Forge Works.—This company has its offices at 1111 Harrison Building, Philadelphia, Pa., and works at Germantown Junction. It announces that its new plant at Chester, Pa., now in course of construction, will double present capacity, and within three months the new premises will be occupied. The principal output will be special drop forgings of iron and steel to 100 pounds in weight. There will also be made

and carried in stock wrenches, hoist hooks, thumbscrews, etc., and the company's patented Keystone connecting links and shackle hooks. Francis E. Weston is president; Wm. G. Neilson, treasurer, and George K. Crozer, Jr., secretary.

Messrs. Sabel Bros.—This well-known Jacksonville, Fla., firm has been transacting an extensive business during the past year, and its prospects for the present year are very encouraging. Messrs. Sabel Bros. have one of the largest equipped vehicle and machinery warehouses in their State, and their business in second-hand machinery has developed to such an extent that they make shipments all over the country. These shipments are especially in the line of railway equipment. They now have on hand six second-hand locomotives in good condition, which they desire to dispose of. Sabel Bros. are State agents for the celebrated Studebaker wagons and for the Parry Manufacturing Co.

Richardson & Co.—Messrs. Richardson & Co., Incorporated, Pittsburg, Pa., announce that they have completed the installation of facilities which will enable them to handle orders for rails with greater promptness than has heretofore been possible. The company has put in trackage to handle twelve cars at once, and is erecting skids to accommodate 2000 tons of assorted rails. Weights from 8 to 100 pounds will be carried in stock. Small lots of rails will be quoted at lowest possible prices, merely covering the cost of extra handling entailed when less than car-load lots are shipped. Buyers of new and second-hand steel rails and railroad scrap are invited to get Richardson prices when in the market.

Standard Steel Cars.—Standard Steel Car Co. of Pittsburg, Pa., has received orders during the past few days for cars aggregating in value over \$2,000,000. Union Pacific Railroad ordered 500 steel stock cars of an entirely new type and 300 all-steel gondola cars, each with capacity for 100,000 pounds. Oregon Short Line ordered 300 steel stock cars and 300 all-steel gondolas. Great Northern Railroad ordered 500 double hopper bottom steel coal cars. Steel stock cars are an innovation in car building. The framework is entirely of steel, including the uprights, braces and strengthening plates. The result is a light car of unusual strength, in which absolute safety is assured in the transportation of live-stock.

Gas-Power Plant Extension.—Winchester Repeating Arms Co. has recently increased capacity of its gas-power plant at New Haven by the purchase of two 165-horse-power Westinghouse three-cylinder producer gas engines. The plant is the first American installation of gas-power apparatus for industrial work. The present equipment comprises about 500 horse-power in Westinghouse gas engines, generator units and Loomis-Pettibone producers. The plant supplies electric power and light for operating the entire manufacturing establishment, and its satisfactory operation up to the present time undoubtedly influenced the selection of similar apparatus. The order was secured by Westinghouse, Church, Kerr & Co.

Ewing-Merkle Electric Co.—This organization announces its readiness to transact a general electrical supply business, and is especially desirous of extending its facilities in the South. The company has just incorporated and secured a six-story building, which is stocked with a full line of electrical supplies and apparatus and a strictly jobbing business will be conducted. Messrs. N. W. Ewing, Milton Mill, W. S. Merkle and W. G. Brown, formerly with Western Electrical Supply Co., compose the personnel of the new company. They are all old experienced dealers, and their engineering department will be of the highest ability obtainable. Engineering will be free to customers. Ewing-Merkle Electric Co. has located at 1106 Pine street, St. Louis, Mo.

The Robinson Oils.—The demand for oils for lubricating and other purposes in the South has steadily increased during recent years. Establishing new enterprises and enlarging established plants has, of course, been the main factor in creating this demand. Wm. C. Robinson & Son Co., 217 South street, Baltimore, Md., has secured a large portion of the Southern trade in oils. This company was established in 1832, and its products include high-grade cylinder, engine, dynamo and spindle oils, lubricating oils and greases; also animal, vegetable and wool oils and illuminating oils generally. The Robinson product is well and favorably known in the South, and its consumption in that territory is steadily increasing. H. H. Straub of Charlotte, N. C., has just been appointed agent of the Robinson Company for his State.

TRADE LITERATURE.

Wickes Bros.' Stock List.—Messrs. Wickes Bros. of Saginaw, Mich., have issued their monthly stock list of new and second-hand machinery under date of February 15. Boilers, engines, saw-mills, machine tools and various other kinds of machinery and tools are included in the list.

Asbestos Boiler Coverings.—This subject is an important one to numerous operators, to dealers and to others. H. W. Johns-Manville Co., 100 William street, New York, issues a neat booklet relating to asbestos boiler coverings, asbestos and magnesia cement felting, fire-felt sheets, magnesia blocks, etc., for insulating purposes.

About Oilstones.—A little booklet that is of value to numerous industrial workers is "Oilstones—How to Select and Use Them." This publication is issued by Pike Manufacturing Co., Pike Station, N. H. The booklet gives information of value to all mechanics on selecting, caring for and using oilstones for various kinds of tools. Copies may be obtained on application.

Obermayer Bulletin.—Foundry information for molders is the special subject of the Obermayer Bulletin. This excellent little publication finds its way to the leading industrial establishments, and gives "pointers" to foundrymen. The S. Obermayer Company, Cincinnati, Ohio, and other cities, issues the bulletin mentioned from the Detroit (Mich.) offices, 1315 Majestic Building.

Purifying Boiler Water.—J. B. Greer of Pittsburg on the evening of February 27, at the Hotel Henry, will read a paper before the Railway Club of Pittsburg on "Purification of Feed Water for Boiler Use." He is an authority on the subject, and his paper will contain much of interest to motive-power men. Mr. Greer is of the Pittsburg (Pa.) Filter Manufacturing Co.

A Matter of Comparisons.—This is the title of a leaflet issued in the interest of Savogran, which is manufactured by the India Alkali Works, 28 India Wharf, Boston. Savogran is a cleaning compound, and it is used by railroads, department stores, mills, office buildings and various public institutions. For many years its makers have been giving satisfaction to purchasers. Write for particulars.

Machine Tools Motor Driven.—"Requirements of Machine Tool Operation with Special Reference to the Motor Drive" is a reprint of the paper read by Charles Day before the New York Electrical Society last December. Mr. Day is of Dodge & Day, modernizing engineers, Philadelphia. Copies of the treatise mentioned can be obtained by addressing R. D. Lillibridge, 170 Broadway, New York.

Northern Generators.—The dominant thought in the conception, design and manufacture of Northern electrical apparatus is the achievement of continuous, economical, satisfactory service. An illustrated leaflet, just issued, briefly tells of the Northern direct-current generators manufactured by the Northern Electrical Manufacturing Co., Madison, Wis. For information regarding the machinery referred to send for leaflet.

Chattanooga Paint Co.—This well-known manufacturer of metallic paints, motor colors and manganese for brick-makers' use is well known in the South. Its products are used in great quantity, and have attained an enviable reputation because of their high quality. The metallic paints and motor colors are unsurpassed in strength, fineness and body durability, coloring power and permanency of color. Chattanooga Paint Co.'s plant and offices are located, as its title indicates, at Chattanooga, Tenn. A leaflet issued by the company reminds dealers and consumers of the products referred to.

Clarence E. Clark.—One of the leading real-estate men of Augusta, Ga., is Clarence E. Clark, who has been dealing in real estate in the States of Georgia and South Carolina for many years past. Mr. Clark has for sale city property, manufacturing sites, water-powers, game preserves, plantations of cotton, corn and rice, mineral and timber lands, agricultural properties and others. Prospective buyers of property in or near Augusta and throughout Georgia and South Carolina are invited to correspond. Mr. Clark is issuing a comprehensive detailed map showing the sections in which his offerings are located.

"Ask Your Engineer."—Such is the title of a most interesting booklet. Its frontispiece is an engineer, with oil can in hand, encircled by a section of packing. Now, it is packing that is the subject of this booklet's words and illustrations. To be more con-

cise, the subject is Empire packing, manufactured by the Canfield Manufacturing Co. of Philadelphia, Pa. The important uses to which packing is put are well known to a multitude of busy workers. For steam, water, ammonia, etc., the Empire packings have achieved a reputation to be envied. The booklet mentioned gives valuable information concerning packings in general and Empire packings in particular. Write for a copy.

Whitewashing and Painting Machines.—The subject of whitewashing and painting by their machines is treated in detail by the Star Brass Works, 152-154 Lake street, Chicago, in a unique covered catalogue for 1903, copy of which will be sent to any address on request. They show ten different sizes and styles, adapted for every size and condition of service. The heads of all well-managed industries are rapidly awakening to the fact that these machines are a judicious investment, and prove a valuable adjunct to factory equipment, for preserving cleanliness, sanitary and light conditions. Owing to the constantly-increasing demand from domestic and foreign sources, the Star Brass Works have been compelled to double their former facilities, and have just completed moving to the new plant at above address.

Steel-protected Concrete.—Modern innovations have accomplished great improvements in ways, means and methods of constructing the best streets and pavements. One of the important introductions in this connection is the Wainwright system of the Steel Protected Concrete Co., Real Estate Trust Building, Philadelphia, Pa. Important advantages are claimed for the system. It is said to be more handsome than granite, and much stronger; continuous in construction, hence never out of line; its galvanized-steel corner-bar prevents chipping or breaking on edges; cannot be displaced by frost, and has other advantages. The company issues an illustrated booklet telling all about this system. These illustrations show some of the best known and most generally used streets in leading cities of the United States.

Jenkins Bros.' Valves.—These valves have made for themselves a reputation in many different kinds of industrial plants and operations. They are manufactured by Jenkins Bros., 71 John street, New York; 31 Canal street, Chicago; 133 North Seventh street, Philadelphia; 17 Pearl street, Boston, and 62 Watling street, London, England. The 1903 illustrated catalogue of the Jenkins Bros.' steam specialties is complete in every particular, telling all the pertinent facts that users want to know. In addition the company makes the offer to put its valve in the most exacting position where other valves do not keep tight. If the valve is not then perfectly tight and does not hold steam, oil, acid, water or other fluids longer than any other valve, the buyer can return it and have the purchase price refunded. Send for catalogue.

Hard Water Made Soft.—These words should be of interest to every user of water in industrial operations, and to numerous others engaged in branches of activity in which pure and soft water is a want. Economy and efficiency are the cardinal points of merit in any equipment, and these requisites are frequently nullified by hard and impure water. The advantages of pure and soft water in boiler use need not be emphasized. All steam-plant operators know them. The elimination of oil from high-pressure condensed engine steam is another desideratum in many plants. This is accomplished and hard water is made soft by the equipments which the Industrial Water Co. manufactures. This company has offices at 126 Liberty street, New York. It has just issued an interesting booklet in reference to its specialty. Send for one.

Plunger Elevators.—These elevators are direct-acting hydraulic, and they have given satisfactory service in some of the best buildings in the country. As the success of hydraulic elevators depends largely upon the merits of the valve used, the Plunger elevator makers perfected a valve for their use. This valve allows that ease of control and smoothness of running which is an important desideratum in elevators. The principles of construction of the Plunger elevator are generally known, but it is probably news to many readers to be told that installations have been made where the car travels over 200 feet (notable in Ansonia Building, New York). These elevators are built by Plunger Elevator Co. of Worcester, Mass.; New York offices at 156 Fifth avenue, and Boston offices at 373 Washington street. The new catalogue is illustrated, and gives all the information prospective buyers would want to have. Send for the publication.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office Manufacturers' Record,

Baltimore, Md., March 4.

Although the past week was dull in the Baltimore stock market, the dealings were not without feature, as there was an abrupt tumble in the price of Cotton Duck income bonds as the result of forced liquidation of margin accounts. There was a recovery, however, from the lowest figures. United Railways 4s declined more than the value of the coupon after the interest payment on March 1, but this falling off was ascribed to a report that the syndicate which pooled a number of the bonds would be dissolved. This rumor, however, proved to be erroneous. The income bonds also fell off fractionally. Seaboard was quiet, as was also Gas. G. B. S. Brewing securities were dull, and there was very little doing in either bank or trust company shares.

In the dealings United Railways common sold from 13 up to 13½, and reacted to 13¼; the incomes, after selling at 68½, gradually declined to 67½; the 4 per cent. bonds sold at 96½ and 96¼ prior to the payment of the March coupon, and afterwards dropped to 93½, from which there was a recovery to 93¼. United Light & Power preferred sold at 40, and the 4½s rose from 86 to 88½ upon favorable reports. Consolidated Gas changed hands between 70 and 71; the 4½ per cent. bonds at 101½ to 101¼; the 5 per cents at 113, and the 6s at 110¼ to 110½. Seaboard common opened at 25½, and gradually declined to 25, with a fractional recovery; the preferred, starting at 42½, dropped by degrees to 42; the 4 per cents sold between 82½ and 84, and the 5 per cents from 102½ to 103¼. Cotton Duck common was traded in at 4 to 4½, and the income bonds, after starting at 31, fell to 27 and recovered to 30; the 5 per cents, sympathizing with the decline in the income bonds, fell from 75½ to 72¼. G. B. S. Brewing common sold at 13½, and the 1sts from 51½ down to 50. The scrip sold at 52½.

In the trust-company group International sold at 142 and 144; Mercantile at 164; Maryland at 198; Continental at 200 to 201, and United States Fidelity & Guaranty at 147½ to 146. Marine Bank changed hands at 37½; Merchants' at 193; Citizens' at 30¼; Howard at 11¼ to 12½; Bank of Commerce at 28, and Bank of Baltimore at 127.

Other securities traded in were as follows: Atlantic Coast Line common, 133; Atlantic Coast Line 4s, new, 89; Atlantic Coast Line 4s (Conn.), 92½ to 93¼; Georgia, Carolina & Northern 5s, 110 and 110¼; West Virginia Central 6s, 112; Charleston Consolidated Electric 5s, 94½ and 95; Merchants & Miners' Transportation Co., 190; Georgia & Alabama Consolidated 5s, 111; Baltimore City Passenger 5s, 108; North Baltimore 5s, 120; Baltimore Traction 5s, 117; Baltimore City 3½s, 1930, 110½; do. 5s, 1916, W. L., 122½; Northern Central, 115½ to 116; Norfolk Street Railway 5s, 113; Baltimore & Potomac Tunnel 6s, 116¼; Carolina Central 4s, 96½; Lexington Street Railway, 50; Potomac Valley 5s, 115 and 115¼; Newport News & Old Point 5s, 108; Maryland & Pennsylvania incomes, 63; Anacostia & Potomac 5s, 100; Georgia Southern & Florida 5s, 115½ and 116; Alabama Consolidated Coal & Iron preferred, 83; Baltimore Fire Insurance, 23; Winchester (N.

C.) 6s, 1909, 101¼; Baltimore City 5s, 1916, F. L., 122½; Virginia Midland 5ths, 113; Atlantic Coast Line first consolidated 4s, 93½ to 95; Petersburg A, 115½; South Bond 5s, 111¼.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended March 4, 1903.

Railroad Stocks.	Par.	Bid.	Asked.
Atlanta & Charlotte	100	122½	123
Georgia Southern & Florida	100	52	53
Georgia Sou. & Fla. 1st Pfd.	100	97	103
Georgia Sou. & Fla. 2d Pfd.	100	78	81
United Railways & Elec. Co.	50	13¼	13½
Seaboard Railway Common	100	25½	25½
Seaboard Railway Preferred	100	42	42½

Bank Stocks.	Par.	Bid.	Asked.
Citizens' National Bank	10	30	32
Commercial & Par. Nat. Bank	100	133	133
Drovers & Mech. Nat. Bank	100	300	300
First National Bank	100	162	168
German Bank	100	102½	102½
Manufacturers' Nat. Bk.	100	102	102
National Bank of Baltimore	100	127	127
National Bank of Commerce	15	28	29
National Exchange Bank	100	194	194
National Howard Bank	10	11½	13
National Marine Bank	10	37	37½
National Mechanics' Bank	10	31¼	31¼
National Union Bank of Md.	100	118	118
Second National Bank	100	190	190

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
American Bonding & Trust	50	85	92
Continental Trust	100	199	200
International Trust	100	143	143
Maryland Trust	100	197	198
Mercantile Trust & Deposit	50	164½	164½
Union Trust	50	68½	68½
U. S. Fidelity & Guaranty	100	146	146

Miscellaneous Stocks.	Par.	Bid.	Asked.
G. B. & S. Brewing Co.	100	12	14
United Elec. L. & P. Pfd.	50	38½	41
Cotton Duck Voting Trust	100	4	5
Consolidated Gas	100	87	101½
Consolidated Gas 5s	100	70½	70½
Ala. Con. C. & I. Common	100	37½	37½
Ala. Con. C. & I. Preferred	100	84	84

Railroad Bonds.	Par.	Bid.	Asked.
Atlanta & Charlotte 1st 7s, 1907	110	110	110
Char. Col. & Aug. 2d 7s, 1910	117	117	117
Columbia & Greenville 1st 6s, 1916	118	118	118
Georgia, Car. & North. 1st 5s, 1929	110	110½	110½
Georgia South. & Fla. 1st 5s, 1929	110	110½	110½
Petersburg, Class A 5s, 1926	116	116	116
Petersburg, Class B 6s, 1926	131	131	131
Richmond & Augusta 1st 6s, 1926	122½	123	123
Richmond & Danville Gold 6s, 1915	117	117	117
Savannah, Fla. & West. 5s, 1934	116	116	116
Seaboard & Roanoke 5s, 1926	112½	112½	112½
Virginia Midland 2d 6s, 1916	120	120	120
Virginia Midland 4th 3-4-5s, 1921	112	112	112
Virginia Midland 5th 5s, 1926	116	116	116
West. North Carolina Con. 6s, 1914	115	116½	116½
West Virginia Central 1st 6s, 1911	111	111	111
Charleston City Railway 5s, 1929	106½	106½	106½
Charleston City Electric 5s, 1929	92½	92½	92½
Newport News & Old Pt. 5s, 1935	110	110	110
United Railways 1st 4s, 1949	93½	93½	93½
United Railways Inc. 4s, 1949	67½	68	68
Seaboard 4s	83½	84	84
Seaboard 10-year 5s	103	103	103
Georgia & Alabama Con. 5s	111	111	111
Augusta Railway & Elec. 1st 5s	100	100	100
Atlanta Street Railway 5s	106½	106½	106½

Miscellaneous Bonds.	Par.	Bid.	Asked.
Mt. V. & Woodby's Cot. Duck 5s	72½	72½	72½
Mt. V. & Woodby's Cot. Duck Inc.	29	29½	29½
G. B. & S. Brewing 1st 3-4-5s	49½	50	50
G. B. & S. Brewing 2d Incomes	37	38	38
United Elec. Light & Power 4½s	87½	88½	88½
Atlanta Gaslight 1st 5s, 1947	104½	104½	104½
Consolidated Gas 6s, 1910	110¼	110¼	110¼
Consolidated Gas 5s, 1929	112	112	112

SOUTHERN COTTON MILL STOCKS

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending March 3.

	Par.	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	69	75	75
Aiken Mfg. Co. (S. C.)	91	95	95
Anderson Cotton Mills (S. C.)	125	130	130
Arkwright Mills (S. C.)	111	119	119
Augusta Factory (Ga.)	64	64	64
Avondale Mills (Ala.)	85	85	85
Belton Mills (S. C.) (old)	99	101	101
Bibb Mfg. Co. (Ga.)	100	100½	100½
Brandon Mills (S. C.)	95	100	100
Buffalo Cotton Mills (S. C.)	101	101	101
Buffalo Cotton Mills (S. C.) Pfd.	122	99	99
Cabarrus Cotton Mills (N. C.)	89	89	89
Calquonia Mfg. Co. (S. C.)	75	75	75
Clearwater Bleby. & Mfg. Co. (Ga.)	170	170	170
Clifton Mfg. Co. (S. C.)	118½	118½	118½
Clinton Cotton Mills (S. C.)	94	101	101
Columbus Mfg. Co. (Ga.)	125	125	125
Courtenay Mfg. Co. (S. C.)	85	85	85
Darlington Mfg. Co. (S. C.)	91	95	95
Eagle & Phenix Mills (Ga.)	93	93	93
Easley Cotton Mills (S. C.)	100	100	100
Enoree Mfg. Co. (S. C.)	86	88½	88½
Enterprise Mfg. Co. (Ga.)	80	80	80
Exposition Cotton Mills (Ga.)	151	151	151
Gaffney Mfg. Co. (S. C.)	105	105	105
Granby Cotton Mills (S. C.)	100	100	100
Granby Cot. Mills (S. C.) 1st Pfd.	101½	101½	101½
Graniteville Mfg. Co. (S. C.)	160	165	165
Greenwood Cotton Mills (S. C.)	99	101	101
Grendel Mills (S. C.)	105	105	105
Honietta Mills (N. C.)	203½	203½	203½
King, John P. Mfg. Co. (Ga.)	90	95	95
Langley Mfg. Co. (S. C.)	100	105	105
Laurens Cotton Mills (S. C.)	167½	167½	167½
Lockhart Mills (S. C.)	101	101	101
Louise Mills (N. C.)	95	95	95
Louise Mills (N. C.) Pfd.	103	103	103
Mariboro Cotton Mills (S. C.)	110	110	110
Mayo Mills (N. C.)	140	140	140
Mills Mfg. Co. (S. C.)	99	99	99
Mills Mfg. Co. (S. C.) Pfd.	103	103	103
Monaghan Mills (S. C.)	99	101	101
Monarch Cotton Mills (S. C.)	96	96	96
Newberry Cotton Mills (S. C.)	115	115	115
Norris Cotton Mills (S. C.)	108	110	110
Odell Mfg. Co. (N. C.)	100	102	102
Olympia Cotton Mills (S. C.)	102½	102½	102½
Olympia Cotton Mills (S. C.) Pfd.	101	101	101
Orangeburg Mfg. Co. (S. C.) Pfd.	103	103	103
Orr Cotton Mills (S. C.)	102	104	104

Pacolet Mfg. Co. (S. C.)	192	195
Pelzer Mfg. Co. (S. C.)	166	175
Piedmont Mfg. Co. (S. C.)	165	175
Poe, F. W. Mfg. Co. (S. C.)	134	150
Richland Cotton Mills (S. C.)	99	99
Richland Cotton Mills (S. C.) Pfd.	102	102
Roanoke Mills (N. C.)	98	98
Sibley Mfg. Co. (Ga.)	64½	64½
Southern Cotton Mills (N. C.)	95	125
Spartan Mills (S. C.)	140	150
Trion Mfg. Co. (Ga.)	125	150
Tucpau Mills (S. C.)	131	131
Union Cotton Mills (S. C.)	152½	152½
Union Cotton Mills (S. C.) Pfd.	102	103½
Victor Mfg. Co. (S. C.)	122½	122½
Warren Mfg. Co. (S. C.)	99	99
Warren Mfg. Co. (S. C.) Pfd.	106	106
Washington Mills (Va.) Pfd.	103½	103½
Washington Mills (Va.) Common	7	7
Whitney Mfg. Co. (S. C.)	110	110
Wilmington Cot. Mills (N. C.) Pfd.	100	100
Wiscasset Mills (N. C.)	115	118
Woodruff Cotton Mills (N. C.)	94	94

Pennsylvania Railroad Report.

The directors of the Pennsylvania Railroad Co. have submitted to the stockholders a synopsis of the annual report for the year 1902, showing gross earnings of \$112,633,330.13; operating expenses, \$75,051,071.17; net earnings from operation, \$37,612,258.96; net earnings after payment of rentals, \$30,954,836.99; gross income, \$39,994,713.93; net income, \$25,849,963.24; balance after paying extraordinary expenses for betterments (\$12,500,000) and payment on account of sinking and trust fund (\$536,528.63), \$12,813,434.61; balance transferred to credit of profit and loss after paying dividend of 6 per cent., \$550,943.61, making the total balance to credit of profit and loss \$24,861,419.89, less amount charged off in adjustment of sundry accounts, \$119,195.06, leaving the amount of credit to profit and loss on December 1, 1902, \$24,742,224.83.

The general balance sheet shows capital stock, \$204,374,850; funded debt, including mortgages and ground rent, \$140,619,856.91; cost of road and equipment, \$152,007,257.67; cost of securities owned, \$226,079,635.75. The total assets are \$433,660,181.

The Pennsylvania lines west of Pittsburgh report for the year 1902 gross earnings, \$33,025,648.39; operating expenses, \$23,308,429.14; net earnings from operation, \$9,717,219.25; gross income, \$15,131,202.57; net income after payment of rentals, interest, etc., \$5,783,985.01; balance, after contributions to sinking fund, extraordinary expenditures (\$2,000,000) and dividend of 3 per cent. (\$1,200,000), \$956,025.01, making the amount credited to profit and loss \$6,286,881.12; balance to credit of profit and loss December 31, 1902, after deducting \$164,521.53 for discount on securities sold and settlements, \$6,122,359.59.

For the Pittsburgh, Cincinnati, Chicago & St. Louis Railway the gross earnings reported are \$26,634,357.54; the operating expenses, \$19,960,452.22, and the net earnings from operation, \$6,673,905.32; gross income, \$6,853,282.18; net income after paying rentals, interest, etc., \$3,021,983.64. After extraordinary expenditures for betterments, payments to sinking funds and the payment of dividends on common and preferred stocks, there was left the sum of \$138,080.04, making the total to credit of profit and loss \$3,816,810.98, from which was deducted \$120,298.43 for premiums paid on bonds redeemed through sinking funds, etc., leaving the amount to credit of profit and loss on December 31, 1902, as \$3,696,512.55.

New Corporations.

It is reported that a third bank will be established at Concord, N. C.

It is reported that a new national bank with \$150,000 capital will soon be established at Roanoke, Va.

The First National Bank of Wanette, Okla., has been authorized to begin business with \$25,000 capital.

Plans are under way to establish a bank at Farmerville, La., \$30,000 having been subscribed for the purpose.

TABLE OF CONTENTS.

EDITORIAL:	Page.
Utilizing Wood Wastes	129
To Suppress Socialism	129
Common Sense in Negro Education	129
A Mistake in Southern Legislation	139

South Carolina's Fertilizer Trade	139
The "Probation" of the South	131
The South's Attitude Towards Negroes	132
Glen Easton Coal & Coke Co.	133
Working for Turpentine	133
Oil at Beaumont	134
Railroads and People	134
Offer for a Shipyard	134
Arkansas Anthracite	134
Oil in Oklahoma	134
Coal from New South Wales	134
Literary Notes	135
A Perfect Table Syrup	135

RAILROADS:	
Selma & Cahaba Valley	135
Seaboard's Annual Report	135
Fayetteville & Albemarle	135
Rock Island and "Frisco" (Illus.)	135
New Line in Florida	137
Boston Mountain Railway	137
Pushing On to Birmingham	137
Fairmont & Colfax	137
Hinton to Newport	137
Fort Myers Extension	137
Railroad Notes	137

TEXTILES:	
Self-Ignition of Cotton	137
New Mills at Dillon, S. C.	137
Highland Park Manufacturing Co.	137
Roanoke's \$30,000 Silk Mill	137
Spindles in February	137
The Odell Improvements	138
Its Third Silk Mill	138
The Cotton Movement	138
Textile Notes	138
Quotations of Cotton Yarns	138

LUMBER:	
Lumber Market Reviews:	
Baltimore	138
Savannah	138
Brunswick	138
Jacksonville	138
Mobile	139
Memphis	139
Lumber Notes	139

MECHANICAL:	
A New Angle Power Transmitter (Illus.)	140
Hercules Steel-Faced Pulley (Illus.)	141
A New 13½-Inch Lathe (Illus.)	141
The National Engine (Illus.)	141
Spirits Turpentine	141
Agriculture in Egypt	142

PHOSPHATES:	
Phosphate Markets	142
Phosphate and Fertilizer Notes	142
Cottonseed-Oil Notes	142

CONSTRUCTION DEPARTMENT:	
New Enterprises	143
Building Notes	146
Railroad Construction	146
Machinery Wanted	147
Trade Notes	148
Trade Literature	149

FINANCIAL NEWS:	
Review of the Baltimore Market	150
Securities at Baltimore	150
Southern Cotton-Mill Stocks	150
Pennsylvania Railroad Report	150
New Corporations	150
New Securities	150
Financial Notes	150

The National Bank of Commerce of Paul's Valley, I. T., capital \$25,000, has been authorized to begin business.

The First National Bank of Bokchito, I. T., capital \$25,000, has been approved by the comptroller of the currency.

The West Texas National Bank of Big Springs, Texas, capital \$50,000, has been approved by the comptroller of the currency.

The Hannibal National Bank of Hannibal, Mo., has been authorized to begin business, capital \$100,000. The officers are Spencer M. Carter, president; James P. Hinton, cashier.

age.
129
129
129
130

130
131
132
133
133
134
134
134
134
134
135
135

135
135
135
135
137
137
137
137
137
137
137

137
137
137
137
137
138
138
138
138
138

138
138
138
138
139
139
139

140
141
141
141
141
141
142

142
142
142

143
146
146
147
148
149

150
150
150
150
150
29
29

e of
has

hito,
oved

Big
been
cur-

anni-
begin
icers
ames

Ga.,
arter.
WB-
Bul-

d, be
to be
exas)
mour

, See